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THE PATHWAY TO REALITY

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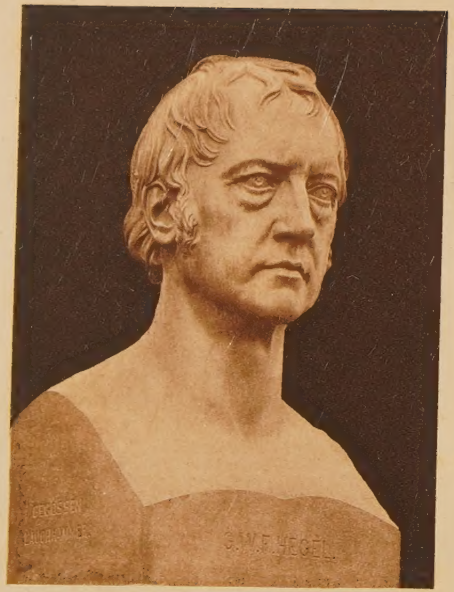

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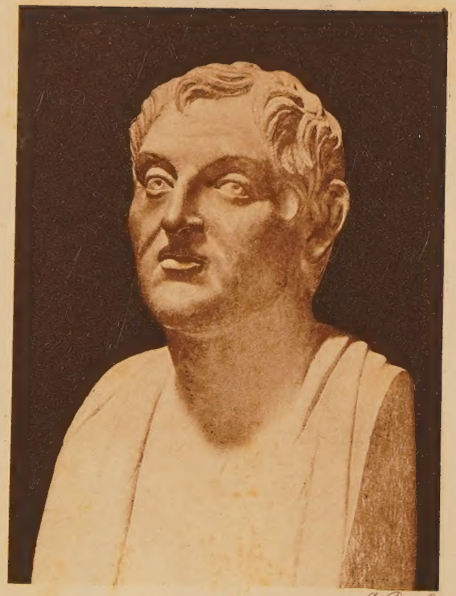

Aristotle.

THE PATHWAY TO REALITY

STAGE THE FIRST

BEING THE GIFFORD LECTURES
DELIVERED IN THE UNIVERSITY
OF ST ANDREWS IN THE SESSION
1902-1903

BY THE RIGHT HONOURABLE
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LONDON
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PREFACE

These Lectures contain the outcome of meditations, extending over some years, about the meaning and nature of Ultimate Reality. My chief ground for hope about the conclusion arrived at is that in substance it has been arrived at long ago. It seems to me that the history of speculative thought, properly read, is no record of discordant hypotheses. It is rather the story of the elaboration of a great conception, in the building up of which, from time to time, construction has been broadened by criticism, and criticism has then been succeeded by more adequate construction. But the main structure of the conception has remained unaltered. Its foundations were laid, more than two thousand years ago, by Aristotle, and these foundations were uncovered, and the structure overhauled, by the great German thinkers who began to interpret Aristotle at the beginning of the last century. As the Time Spirit brings fresh materials with which to work, that structure will have to be again overhauled and added to. It is the legitimate work of ordinary mortals

to seek to understand and set forth the plan of the building, and this is all that I have tried to do. In a subsequent series of Lectures I hope to deal with the meaning of that plan for Conduct and Religion.

The Lectures were for the most part delivered *ex tempore*, of course with assistance derived from carefully prepared notes. I did not choose this form from any indisposition to find time to write. The reason was that experience in other vocations, of the difficulty of explaining remote and obscure issues to those whom I had to assist to grasp them, had taught me that one ought to watch one's audience, to follow the working of its mind, and to try to mould one's discourse accordingly. I did not see why this should not be as true of an Academic lecture hall as it seemed to me to be of other places. Whether I have been right I do not know. What is printed in the pages which follow is, at all events, just what the stenographer took down, with verbal corrections.

In conclusion, I wish to express my gratitude to my friend Mr Kemp for reading the proofs of the book, and for many suggestions made while it was passing through the press.

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BOOK I

THE MEANING OF REALITY

LECTURE I . . . . . *Pages* 3 *to* 33.

The purpose of Lord Gifford in founding his Trust may be taken to have been to promote a *thinking* consideration of the nature of God and of His relation to the world.

To such a purpose objection has been taken on the ground that there is no way of applying a scientific criterion of truth, such as we possess in the chronometer, or the balance, or the measuring rod. But criteria of this kind have only a limited application. We cannot apply them to art, or to morals, or to history, or even to the simplest conception of development in the region of life. Truth must, therefore, have a wider meaning. The test of a conception must be, not mere conformity to some external standard, but adequacy to the facts which it has to explain. The history of philosophy is no mere record of hypotheses rejected successively, but the history of a development in which criticism has succeeded to construction and again construction to criticism. God cannot be defined as less than the Ultimately Real, in terms of which all else can be expressed, while it cannot itself be expressed in terms of any thing beyond. The development of the theory of Ultimate Reality is the history of metaphysics. Sometimes the work has been merely negative or critical, as with sceptics like Hume. At other times it has been constructive, as with Aristotle and Hegel. But through it, if

we confine our attention to the product of the great minds of philosophy, we may observe the evolution, in ever deepening form, of a single conception of Reality. This conception is conditioned by the materials which the Time-Spirit provides. The task of these Lectures will be to answer the question: How, in the commencement of the Twentieth Century, ought we to conceive God? We may, of course, find that Ultimate Reality bears no analogy to what is meant by "God" in common parlance; but, if God cannot be less than the Ultimately Real, a good deal of what is obscure is got rid of at once. It is plain, for instance, that the Ultimately Real cannot be described as a First Cause, for the relation of cause and effect is a relation which can obtain only within the forms of Time and Space, and these forms may turn out to fall within the Real, instead of conditioning it. Nor can God be defined as Substance. The deepest and most fundamental of all relationships appears to be that of being object for the subject. Even the existence of a Universe of mere matter and energy could have meaning only for the mind of a fully equipped spectator. For a lizard it might seem something different from what it does for us, and for an angel something not less different, but in another direction. We must try first of all to get at the meaning of subject as distinguished from substance, for this appears to be the wicket-gate to the pathway to Reality.

LECTURE II . . . . . *Pages* 34 *to* 60.

Yesterday we made a first and tentative step, which took us only a very little way. We rejected the conception of cause and also that of substance, because they both fell within the limits of being object for the subject. The subject is no substance. For substance means the thing as distinguished from its properties, an abstract inert identity, a mere point of view in experience. Subject is more akin to life than to substance. For in life we have the whole existing, not as distinct from its parts but in and through them, and this notwithstanding their apparent externality to each other—but in the thinking of the subject we have more than this. The

great advance made by Aristotle as against Plato was to show that thought did not exist apart from its object, any more than the object existed apart from the thought *for* which it was object. He showed that the universal existed in and through the particular, and that, not less, the existence of this particular was in and for the universal. It was for him only by abstraction, legitimate only provisionally and for special purposes, that the individual object in experience could be broken up into universals of thought as operating on particulars of sense. This has been the view of modern metaphysics since the time of Hegel, who first taught people to understand Aristotle. So far as Mill's doctrine of the nature of the real as consisting in a system of permanent possibilities of sensation goes, he is at one with this teaching. He shows that a mere sensation, if it could be conceived, would not only be a vanishing quantity, but would be indescribable. We have none of us experience of our neighbours' sensations, nor can we even reproduce our own past sensations for comparison. We compare properties, universals, which are the outcome, when abstracted, as abstracted they are at every instant of our lives, of thinking and not of feeling. The system according to which we think, and in which our feelings are set, is objectivity, and on this system depends our conception of truth. Through it we get our notions, not only of our neighbours, but of ourselves as individual intelligences and personalities. Thought is free to determine itself, and to choose the conceptions under which, and the standpoints from which, it will abstract. The hard-and-fastness of the world of experience which confronts us is the outcome of the selection—unconscious, if sufficiently the outcome of habit—of particular conceptions and standpoints. Of this the stereoscope, the hypnotised subject, and the madman may be taken as examples. Their world is for them apparently immediately there. They have in it the sense of satisfied meaning, and search for certainty. But their worlds are untrue in so far as they conflict with the general system of experience, and not from any want of the power to produce conviction. The commonsense standpoint appears to combine this power of producing conviction with compliance with the system in which men and women agree in thinking in experience. The hardness-and-fastness of that experience

is the outcome of common conceptions and standpoints under which commonsense has abstracted and hypostatised its abstractions. The aims, nature and meaning of these abstractions we must examine as the next stage of the journey along the pathway to Reality.

LECTURE III. . . . . *Pages* 61 *to* 89.

The dilemma put is that either things make thought, or thought makes things. Berkeley and Mill have shattered the first alternative; but the second is just as absurd, if it means that *I* make things. There must be a rational explanation of the fallacy of solipsism. The dilemma on which it rests is really founded on a false metaphor. When we speak of "making" or "constructing" we are dragging in the notion of processes in time and space, and this is out of the question, for time and space are general relations which have to be accounted for as much as anything else. Further development of the topic of last Lecture, the true relation of universal and particular. Mind, the subject, is not a *thing* operating *ab extra* in the construction of experience. Divest the object world of experience of the incrustation of bad metaphysics which has arisen through the standpoint of everyday life being taken as a guide to more than what is true for practical purposes, and the difficulties become gradually lessened. The "window" theory of mind must be rejected, whether we approach it as physiologists, or as psychologists, or as metaphysicians. The notion of the self as a *thing* is a derivative and secondary one, and is not adequate when we are inquiring into the foundations of the system in the course of which it appears as such. Kant was infected with a point of view which is of great practical utility in psychology, but only provisionally valid, the point of view from which knowledge is assumed to be capable of being laid on the dissecting table and broken up into faculties and separable elements. Modern psychologists like Münsterberg have carefully pointed out that this hypothesis is to be made use of only for strictly limited ends, and is a source of error when the inquiry is into the nature of reality. The teaching of Aristotle ought never to be forgotten.

LECTURE IV . . . . *Pages* 90 *to* 114.

Having got rid of the "window" theory of the mind, and of the notion of separate faculties of intelligence, we must inquire what the true nature of experience is. It is not put together out of atomic sensations, for these are what they are only in so far as thought in universals. Their *esse*, like all *esse*, is *intelligi*. Experience is rather to be conceived as a living and indivisible process, in which the activity of intelligence proceeds from the indefinite to the definite, the organisation by thought of an ἄπειρον, which has no meaning except as a stage in the entirety of experience. Experience itself, the content of consciousness as immediately present to us, is permeated in every supposed element by the universals of thought, and has no meaning outside of or apart from these universals. It is within this field and through these universals that we frame our distinctions and evolve the notion of the *thinker* as distinct from what is thought, a distinction which cannot be adequate for the purposes of the ultimate view of things. I can form no *picture* of myself as distinct from its manifestations, from my body, my history and relationships. I can, it is true, by a process of abstraction eliminate each of these in turn, and get further and further towards the notion of the pure subject in knowledge; but as I do this I recede further and further from what, as a plain commonsense person, I mean by myself. For practical purposes I know well enough what I mean by myself, but this does not help in metaphysical inquiry when these purposes are neither in question nor relevant. The true view of experience would seem to be that it is for us what it is in all its complexity as the result of habitual reflection at many and different standpoints—scientific, ethical, æsthetic, religious, etc., at each of which abstraction and hypostatisation take place under different conceptions or categories, adopted because of the purpose or end to be realised in each case. The ultimate nature of reality can only be found when these conceptions and categories have been carefully criticised and their limits ascertained. When we have understood that the different aspects of nature, such as mechanism, life, etc., are the outcome

of abstraction under different categories, we perceive that there is no conflict between the results of the sciences, and that we have no title to reduce, *e.g.*, life to mechanism, and so contradict the commonsense of the plain man, for whom, because he does not abstract and define in the same fashion, these standpoints easily co-exist. Thus our belief in the reality of the world as it seems may be restored to us, and we may come to see that the way to get at the nature of reality is by thinking experience at the highest of standpoints. In this way the conception of experience as containing *degrees* of reality becomes a legitimate one.

LECTURE V. . . . . *Pages* 115 *to* 139.

The outcome of the preceding Lectures may be expressed in five propositions:—

1. That activity of intelligence which we mean when we speak of the subject is not like the motion of a mechanism and cannot be described by the analogy of cause and effect. It is the self-determination of reason which acts on rational grounds, and which can detach itself even from the most formidable phase of experience, and abstract freely even when confronted by its own negation, such as is pain.

2. The organisation of experience into a world is the result of the purposes and standpoints which reason adopts. That world may be quite different for the inhabitants of Saturn and Jupiter, if they have different senses from ours and different social relationships. They may bring into clear consciousness and hypostatise as hard and fast appearances from which they cannot get away in their daily existence, phases which are unknown to us; and they may be unconscious of phases, *e.g.*, those which depend on the sense of colour, which are for us omnipresent. What must be common to them and us are, however, the universals of reflection. For these not only have no locality in the time and space for which they form the very conditions of possibility, but apart from them we cannot conceive rational beings at all. Without them even scepticism were impossible.

3. It is thus rather in ends than in causes that we must seek the explanation of the world as it seems.

4. To all of the phases of this world as it seems must be ascribed reality, but degrees of reality differ, and are higher the more fully they manifest themselves as pertaining to the standpoint at which the world is presented as the outcome of thinking rather than of feeling.

5. We could not, even if we would, *deduce* the universe, or present it in terms of universals or thought relations. The idea of doing so comes only from our not having got rid of the notion that thought is some faculty of a thing, and that perception is a process in space and time. The self conceived as a thing is only a secondary and derivative conception. *That* the Universe should be there is the very condition of self-consciousness. We can disentangle in reflection the general nature of *what* it is. But thought no more makes things, than things make thought. Each contrasted with the other is a mere abstraction. Aristotle and Hegel have both sought to exhibit the work of Reason in the constitution of the Universe, the pulsation of thought even in the *That*. But neither has endeavoured to deduce the Universe, nor could consistently have done so. Examination of the criticisms of Professor Pringle Pattison and Professor Royce.

LECTURE VI. . . . . *Pages* 140 *to* 165.

The view of the process of knowledge which has been developed in the last five Lectures goes beyond that of the older text-books of logic and psychology; but the modern view is closely akin to it. Modern writers do not draw the distinction between thinking and willing which used to be drawn, and instead of regarding thinking as a process of establishing relations between individuals or classes, they regard the development both of knowledge and of the soul as resting not on an atomistic basis, but on a process of determination of what is indefinite and abstract into what is more definite and concrete. The influence of Schopenhauer and Lotze has prevailed against the abstract view of intelligence which some of the disciples of Hegel took, but which was not taken by Hegel himself. At

the same time modern science has brought about great developments both in logic and in psychology. In modern text-books of logic we are shown how the individual mind builds up its world of reality. The judgment is the bringing of further definitions into the subject of the judgment, which is the *that* of reality, the qualification of the *that* by incorporating into it a further *what*. In modern text-books of psychology what is treated of are the events of a single soul considered merely as events that happen, *i.e.*, immediate experience taken as belonging to something that has a past and a future. These are limited standpoints, but they yield fruitful results, and in no way conflict with the attitude of metaphysics. Fuller consideration of the standpoint of logic and psychology, and transition to the standpoint of mathematical and physical science.

BOOK II

THE CRITICISM OF CATEGORIES

LECTURE I . . . . . *Pages* 169 *to* 188.

Retrospect. A criticism of the conceptions or categories which we employ in the daily business of life is essential, if we are to avoid mistaking abstractions for reality. Such a criticism is certainly not less essential in Science. Illustration from Mathematics. The individual object in Nature, and Nature herself. Her broadest characteristic is the relation of Externality. The method of scientific investigation, and the relation to it of a criticism of categories. Character of a true "*Naturphilosophie*." It must always be limited by the quality and quantity of the material which the science of its age has provided for it to work on. This was the difficulty which Hegel had to contend with when he tried to treat this part of his system. Yet a careful criticism of the limits of the categories employed in the various Sciences, and an examination of the relation of these categories to each other, are duties unavoidable by those who search after final truth.

LECTURE II . . . . *Pages* 189 *to* 237.

Science comprises every branch of knowledge which aims at a better comprehension of experience by systematically considering its object under defined categories or abstract conceptions. Greatly as men of Science have benefited mankind, they have also, at times, terrified it by treating reality as if it must be brought under these conceptions to the exclusion of others. How this has happened we must now try to discover in detail by reviewing critically the procedure of various Sciences. Illustration of the fashion in which applied Mathematics abstracts from and ignores the real, as the price of its assistance in enabling us to calculate distance. The difference between the conceptions of Space and Time of the Geometer and the Physicist. That of the former is much more abstract and limited. The conception of quantity itself has two aspects—the discrete and the continuous. The second is the subject of the Infinitesimal Calculus, the notions of which seem to contradict those of ordinary Mathematics. The controversy between the disciples of Newton and those of Leibnitz about Infinitesimals turned on language mainly. Geometry as the Science of pure Externality can dispense with the conception of measurement. What is called Projective Geometry does so, and thereby gets rid of the assumptions which Euclid makes. Consideration of the Euclidean assumptions, and of the dimensions which it assumes to characterise space. Modern Physicists, like modern Mathematicians, tend to a more abstract procedure than formerly. They have eliminated the notion of Cause, and are trying to eliminate that of Force. But Physics must always be more than mere applied Mathematics, and consequently in practice it combines several standpoints, and is thus a composite Science. Difficulties arising out of the conception of action at a distance. Differences between the conceptions of the molecule of the Physicist and the Chemist. For the latter the molecule means the smallest mass into which a substance can be divided without changing its chemical nature. The Atomic theory is an artificial and abstract view of things, and no more than a valuable working hypothesis. The conception of the living organism is quite different from the conceptions of the

Mathematician and the Physicist and the Chemist. Commencement of the consideration of its nature.

LECTURE III . . . . . *Pages* 238 *to* 278.

In the organism the leading features are totally incapable of reduction to these of mechanism. They belong to a different plane of comprehension, at which it is natural to have experience of a whole which does not exist outside the parts and yet determines their behaviour. The problem of "Abiogenesis" is founded on a confusion of categories. We can no more conceive an ultimate limit of life than we can conceive an ultimately indivisible atom. Both are fictions of reflection, and have and can have no place as individuals of experience. The inability of uncritical theorists to accept in its simplicity the experience of life as a whole existing *in* its parts, and these as acting in consequence *quasi*-purposively, gave rise to the old Vitalism. The notion of a special vital force was mechanical, and is now exploded. The cell theory: Johannes Müller and his work. The influence on biology of Schleiden and Schwann. Schwann's theory of cellular growth and his analogy of crystallisation. The "intussusception" difficulty. Protoplasm. *Quasi*-purposiveness apparent throughout. There is no real difficulty about the modern theory of Vitalism. It is the necessary outcome of the criticism of biological categories. Between those of mere life and those of conscious life there are intermediate conceptions, such as that of Instinct. To the explanation of these the categories of biology are inadequate, and still more so to the phenomena of the soul. The definitions of life by the philosophers and by the physiologists. Life is the co-operative action of the parts in a common course of development. The nature of the action of the organism in health and in disease. We cannot proceed further without the use of categories under which man appears in experience as a conscious and rational being.

LECTURE IV . . . . *Pages* 279 *to* 312.

The individuality of a human being is incapable of resolution into any single aspect. The nature of Consciousness. The attempted regress in analysis to the self as mere subject. The relation of the categories of Consciousness to those of Life. Illustration from the case of the frog whose cerebral hemispheres have been removed. There appears to be between Consciousness and Life a borderland where action is *quasi*-purposive. The higher the stage of an animal in evolution, the more does its power of adapting itself to its environment, and of displaying intelligent action, accord with the development of its cerebral hemispheres, and appear to be distinct from the functions of the lower centres and the spinal cord. The phenomena of the soul are in close accord with those of the action of the cerebral hemispheres, but the soul is not a "thing," and has no "seat" there. It is the same real individual in another aspect. Definition of psychology. It is an abstract science which often transforms its object-world to suit its own standpoint. The nature of this transformation. The separation in psychology of thought and volition is artificial.

The examination of the categories of Science ends with those of psychology. Final retrospect. What has been attempted in the last four Lectures does not cover the whole ground, for it is only in the form of a system, such as Hegel sought to construct, that the full truth can be exhibited. Whether the truth can be so exhibited it is not necessary, for the purpose of these Lectures, to determine.

FRONTISPIECE

HEGEL. From the Bust in the Hegel Platz in Berlin; and

ARISTOTLE. From the Reputed Bust in the Capitoline Museum, Rome

BOOK I

THE MEANING OF REALITY

LECTURE I

The purpose of Lord Gifford in founding these Lectureships may be said to have been to promote a *thinking* consideration of the Nature of God and of His relation to the actual world. He appears to have believed in the possibility of what Cardinal Newman called a "Science of God," and defined as "the truths we know about God put into a system, just as we have a science of the stars and call it Astronomy, or of the crust of the earth and call it Geology."*

Whatever conclusion we may arrive at as to the possibility of its fulfilment, this purpose of Lord Gifford was highly laudable. For everywhere we see the unhappy consequences which have followed the neglect of Faith to seek support from Reason. The Churches are to-day, in the commencement of the twentieth century, still very strong. The laity recognise them as the guardians of certain phases of human nature, which they hold to be real, and esteem as highly as ever. But although the organisation of the Churches, as practical agencies for raising and maintaining the

* *Idea of a University*, Discourse ii., 7.

level of conduct, is held in high regard, the authority of the Churches as exponents of a system of truth has sunk somewhat low. The majority of educated men and women, and, for that matter, the bulk of the people generally, pay to the creeds much less attention than was once the case. The creeds and confessions of faith have come to be looked on as containing a number of metaphors, suggestive in a vague fashion of something which their language does not adequately express. The progress of Science has caused this language in large measure to pass out of use in the daily discourse, even of the ministers of religion. Nothing in their sermons is to-day more characteristic than the absence of any attempt to place reliance on its propositions as a guide to theoretical truth. They seem to yearn for a region of scientific certainty towards which they turn their eyes, as though they felt themselves separated from it by a gap which they know they fail to span. The words in which Virgil, in the sixth book of the *Æneid*, described the figures standing on the banks of the Styx might have been spoken of them also :—

> "Stabant orantes primi transmittere cursum,
> Tendebantque manus ripæ ulterioris amore."

It seems as though nothing but Reason herself could span the gulf which Reason has made between the Church and the ground on which she longs to plant her feet with firmness and the assurance of having reached final forms of

truth. For the advance of Psychology in the last twenty years has shaken to its foundation the alternative of depending on that immediate certainty which is the foundation of Authority, and which has been the refuge of many admirable men and women. Of the genuineness of their conviction, and of the depth of their feeling, there can be no doubt. Of the value and validity of this conviction and feeling as a foundation on which to build a theory, there is unfortunately room for much doubt.

My distinguished predecessor in the Gifford Lectureship, Professor James, has published his Lectures in the form of a book which he calls *The Varieties of Religious Experience*, and in which he has brought the results of the most recent Psychology to bear upon the question of the nature and origin of religious faith. He has relegated the immediate certainty which rests on feeling to an origin, the comprehension of which he calls the most important step forward recently taken in Psychology—the hidden background of mental process to which we do not attend, and of which we are not even aware, the subliminal self which does not cross the threshold of ordinary consciousness. For its existence he has accumulated a great body of evidence. To it, to this subliminal self, he traces alike the phenomena of hypnotism, of neurosis, of the effects of nitrous oxide, and of religious emotion even in its highest form. He shows that the development of all

these is governed by the same psychological laws. The function, he says, of these invasions from a sub-conscious region must be permanent. Their peculiarity is that they suggest to the subject external control. When we try to get further than this psychological result, he declares that what he calls the "overbeliefs," the inferences which go beyond the facts, begin. So far as the facts go, they do not warrant disbelief in one infinite God, but they are just as consistent with recognition of a plurality of finite gods. "Thus," he says, "would a sort of polytheism return on us." At this point he stops. His book forms a powerful Critique of Pure Faith. It certainly is in danger of being put on the "Index" of any Church which bases itself on the appeal to right feeling as the foundation of its claim to authority.

In these Lectures I shall place no reliance upon feeling as such. Feeling would appear to become valuable only after it has been justified by thought, and not before; and I think the facts which Professor James has collected put that question very nearly beyond doubt. In the twentieth century in which we are living, it must be recognised that apart from the sanction of Science the foundation of a faith is impossible.

We have, therefore, to return to a thinking consideration of the nature of God in the spirit of Lord Gifford. If we are to find such a foundation, and would see the truth, we must not fear whither the pathway may lead us. We

must tread it if we can. All men, who are worth anything, feel that they have to know as well as to live, that to eat, drink, and make merry is not the end of existence. Most of them have at some period of their lives had the faith that somewhere there are bridges which span the gulf that separates and isolates the various phases of the world as it seems—that separates the conviction produced by the exact sciences from the conviction of the reality of those other regions of beauty, of moral worth, and of certainty in religion, which concern the same world as it seems when aspects wholly different from those of scientific knowledge are considered:—

> "Thoughts hardly to be packed
> Into a narrow act,
> Fancies that broke through language and escaped.
> All I could never be,
> All men ignored in me,
> This was I worth to God, whose wheel the pitcher shaped."

It is this sense of things unseen which is the motive of such an undertaking as Lord Gifford desired. This is the source of what Aristotle called "Wonder," and declared to be the beginning of all Philosophy.

Yet this sense of things unseen is of value, as modern Psychology has shown us, only if the effort which it arouses can justify itself scientifically. And therefore the question at once arises: Is there any hope—since we must turn to Reason—of finding in Reason the firm ground for which

we seek? For does not the record of the efforts of Reason, as set forth in the history of Philosophy, afford us the spectacle of system succeeding system, of hypothesis coming after hypothesis, only to be rejected and laid aside in favour of some new fancy? The affirmative answer to this question appears to me to turn on a very narrow view of the history of Philosophy, and to rest on a misconception of the nature of the standard of truth. There are some sorts of truth to which we can attain only by considering whether a conception which we have formed agrees with some external object or standard. For example, when we wish to test a conclusion about size in space or duration in time, it is necessary for us to resort to the balance, the measuring rod, or the chronometer. The standard in such a case is external, but an external standard is not the only test of truth. There is a form of truth which deserves the name just as much as the truth which measurement gives us, and that is the truth which we recognise in the perfection, say, of a great poem, of Shakespeare's Hamlet, of Milton's Lycidas, of Wordsworth's "Lines written near Tintern Abbey"—or the truth which we recognise when we say of a great picture that it is inevitably painted as it is, and not otherwise—the truth which we find when we look at the expression on the face of the Virgin in one of Raphael's Madonnas, the consciousness of her great calling as the Mother of

God, and the profound feeling with which that consciousness has filled her mind. Or take a sunset painted by Turner. There, again, we feel that to him Nature looked at that very instant as he has shewn her, and not otherwise, and that before us we have, in the deepest sense of the word, Truth. Or again, if we turn to the sphere of action, we find the truth in the conduct of the men who charged at Balaclava, and who preferred duty to life; in the justice of Aristides; or in the character of Socrates; or in the surrender of self to God as manifested in the life of Jesus; or in the suppression of the will to live as shown through the career of Buddha. In all these facts there is that which appeals to our minds, to reason as well as to feeling, as indubitably the truth, and the truth in a sense which compels assent just as much as did the results we arrived at when we applied the balance, or the measuring rod, or the chronometer.

In instances such as these, the test seems to be the completeness of what is expressed—its adequacy to the deepest conception in the light of which it can be judged. The test is certainly no measurement by a rigid external standard, and the critics of art and conduct fail if they do not recognise this.

Even in some departments of Science we find that the notion of conformity between an external standard and the conception to be scrutinised is insufficient. Take, for instance, what we have

in Biology, the development of a life. What does a true development mean? It is the development which fulfils the end or quasi-purpose of the organism. According as the development follows a course which leads to such fulfilment, we pronounce it to be true. Adequacy to an end is the test applied.

In Philosophy, in like fashion, a system is true only in so far as it is adequate to its subject-matter. The method of Philosophy, like the method of every sort of science, is hypothesis. When Newton said "*Hypotheses non fingo,*" what he meant was that he did not make hypotheses except for the purpose of verifying them by experiment. So it must be with method in every department of knowledge. We first frame an hypothetical conception, and then, in the fashion which is appropriate, test it by applying it to the subject-matter. But the criterion of adequacy is not necessarily an external one. In Philosophy comparison by measurement is no more possible than it is in Biology, or in Art, or in Conduct. The adequacy of the conception is judged otherwise.

All inductive method begins by hypothesis, and accordingly in Philosophy the method is the evolution of a conception—a conception taken up and enriched and advanced at each stage by some great man, who tests in the light of facts the adequacy of what he has thought out. In the history of Philosophy you find true evolution, a

process in which criticism succeeds to construction, and again construction succeeds to criticism. There have been different rates of progress at different periods, and the form of the movement has not been always the same. Hume and the sceptics illustrate the negative or critical phase of it. Their work was to show inadequacies in current philosophical conceptions. But when you turn to men like Plato, Aristotle, Kant, and Hegel, you get the constructive phase. These are men who have worked out the great conception of the nature of reality a stage further, to be tested, to be examined by the critics, by the sceptics if you will, and as the result of that testing and examination to emerge enriched and a stage further on.

The process by which Philosophy progresses has been described by Hegel in the introduction to his *History of Philosophy** in words which I will quote to you:—

"The World Spirit does not sink into the rest of indifference; this follows from its very nature, for its activity is its life. This activity presupposes a material already present, on which it acts, and which it does not merely augment by the addition of new matter, but completely fashions and transforms. Thus that which each generation has produced in science and in intellectual activity is an heirloom to which all the

* Hegel, Lectures on *The History of Philosophy*, Introduction, English Translation, p. 3.

past generations have added their savings, a temple in which all races of men thankfully and cheerfully deposit that which rendered aid to them through life, and which they had won from the depths of nature and of mind. To receive this inheritance is also to enter upon its use. It constitutes the soul of each successive generation, the intellectual substance of the time; its principles, prejudices, and possessions; and this legacy is degraded to a material which becomes metamorphosed by mind. . . . In this manner that which is received is changed, and the material worked upon is enriched and preserved, both at the same time. This is the function of our own and of every age: to grasp the knowledge which is already existing, to make it our own, and in so doing to develop it still further, and raise it to a higher level."

This description seems to me to be an accurate one of the movement of thought in Philosophy, and to give a view of truth which, if we are in earnest about it, will deliver us from the fear of not being able to advance towards the truth about the things with which we have to deal. For Hegel shows that the great problem of Philosophy has given rise to a conception which has developed as generation has succeeded generation, until we have got it, in our time, in a form adequate to the new materials which the Time Spirit has brought to us.

What we have to do is to try in our humble

fashion to grasp this conception in a form which is adequate to the commencement of the twentieth century. Many minds are at work upon this problem; the minds of very different men, but men who have like purposes. And the problem is one worth solving, for through the solution, even if the solution be such as is adequate only to the materials of the time in which we live, we may find, not only clearer ideas, but the way to rid ourselves, in Science for example, of a great deal of unconscious and bad metaphysics.

Whatever may be said against Philosophy as an instrument for construction, it is certainly valuable when we come to deal with the unconscious dogmatism into which men of science are apt to fall—I mean dogmatism in the sense in which Kant used the term. The truth is that in Science, as in some other things, we have every now and then to look for and lay aside our uncritical assumptions, to "clean our slates," and the cleaning of the slates is not always an easy or wholly agreeable process. But this at least is certain, that the aim of Philosophy can be no less than to reach a standpoint so comprehensive, so free from particularism and narrowness, that from it, with a clear light, we can detect and put aside the analogies and metaphors that are inadequate and therefore false. So only can we rid ourselves of the dogmatic assumptions, most of them unconsciously made, which obscure the view into the ultimate and inmost nature of Reality. Our

everyday experience implies a system of beliefs which, for the practical purposes of life, are necessarily and properly assumed to be adequate representations of the truth. But for Science and for Philosophy, both of which go beyond the phenomena of immediacy, and resolve their apparent finality, the individual resting-places of that experience disclose themselves as, in fact, no resting-places at all, but as transient, self-contradictory and self-abolishing. It is the task of Philosophy to unravel the reasons for this, and unless it can do so, it fails.

I shall try, therefore, to help you, with such light as I can bring to bear on the problem, towards the conception of which we are in search. I shall try to set out that conception in simple language, and I will begin by saying at once that the thought which I have to lay before you —what I may call the single thought which I shall have to lay before you — is no new thought. It is as old as the time of Aristotle, and what we have to do is to try to express it in the form which is most adequate to our age.

Such will be the aim and spirit of my endeavour. I must begin at the beginning, for I can only hope to have even a chance of carrying out Lord Gifford's purpose, by trying to work out the truth in a systematic form. Only at the end will the meaning fully emerge. At present the important thing is the foundation. The relationship of man

to God cannot be expressed in a sentence. It can only disclose itself in its proper place in a system of truth. It is one of the great difficulties of the philosopher, that, from the very nature of his subject-matter, he can never express things epigrammatically or succinctly; with him a systematic form is essential.

Well, two questions must confront a Gifford lecturer who seeks to try to give effect to Lord Gifford's purpose in the serious spirit in which it was meant. The first is: What do we mean by the word "God"? The second is: How, in the light that in the twentieth century philosophy has cast on Reality, must we conceive and speak of Him?

Now, as regards both of these questions it seems to me that people have embarrassed themselves with an assumption which has pervaded much of the speculation. In Goethe's story of *Wilhelm Meister* he tells us how Wilhelm, the hero, listened to a conversation between two characters who figure much in the book, Lothario and Jarno, and how, in the course of that conversation, something was said that struck the hero deeply and influenced the whole course of his life. Wilhelm had been longing for some remote sphere in which he might give free rein to his abilities and aspirations. He had thought of going to a foreign land, to America, to seek such a sphere of untrammelled action, but he learns from this conversation a principle which enters

into his very soul—that in the duties that lie nearest to him is the true Infinite, and that here or nowhere is his "America." Now, something of the kind, it seems to me, ought to be told to those, and they are many, who set out in the search after the nature of God as if its truth must lie in some sphere remote from the Here and the Now. People are always looking for some other and different world in which the balance of this one may be redressed. And yet that involves a dogmatic assumption which may turn out to be a profound fallacy. It assumes that this world as known by us, as in our everyday life it is taken by us to be, has appeared to us in the fullest phase of its reality, and that we have so entirely comprehended it that, as we do not find the notion of God within it, we may assume that this notion must be sought elsewhere. And yet it may be that it is just in the world that is here and now, when fully comprehended and thought out, that we shall find God, and in finding God, shall find the Reality of that world in Him.

The same sort of fallacy, the same sort of dogmatic assumption, manifests itself in such controversies as that about life and mechanism. People assume that the living organism and the machine are two things, not only quite different in their nature, but external to one another, like two marbles. But there remains a possible point of view which these controversialists seem not to

have thought out, the point of view from which mechanism and life disclose themselves, not as separate things, but as appearances from different standpoints, as different aspects of a single Reality. That is a view which we shall have to ask about further in the course of these lectures. For the present the only observation that can be made is that what separates mechanism from life, and makes the broad and vast gulf that seems to lie between them, may quite as well be the ends or purposes of the mind in organising its system of knowledge, as some absolute separation between the two. Just so it is at least possible that it may turn out that the view of this world, as a world in which God cannot be looked for, may have to give place to a view in which it becomes apparent that, seen at its highest, viewed from a different standpoint, and with fuller insight, this world may turn out to be but appearance and God the Ultimate Reality disclosing Himself in that very appearance.

Now the want of a comprehension of this point of view as a possible one, the failure to realise the dogmatic assumption which underlies its exclusion, has prevented people from understanding a great deal of what has been most notable in the history of speculative thought. If they had read and taken to heart the lesson, not of Kant's *Critique of Pure Reason* so much as of his *Critique of Judgment*, they would have learned something, the lack of which has made it im-

possible for them to read with understanding or sympathy the bulk of Greek Philosophy. They would have learned that the way in which the world seems to us depends on the standpoint from which we approach it; that our ends and purposes, consciously or unconsciously formed, determine the conceptions under which the organisation in knowledge of what we call experience takes place; that this experience is always relative and shifting in its signification. The Greeks used to teach this truth, and Kant rediscovered it. To those who are penetrated with it, it has seemed as if it was at least possible that we human beings, with our minds at the highest, might see and realise close to us something of the nature of God. There are even some, such as the Mystics, who have believed that like Moses of old, they might view Him; perhaps be blinded in the process; yet at least have found Him near.

We cannot go beyond our limits as human beings, beyond the conditions under which alone knowledge is possible for us. If we would rise above the plane at which the world of experience discloses to us the meaning that contents us in everyday life, it is to reflection that in the main we must look. For direct vision we can hardly hope.

Yet it seems that something more is possible than merely abstract reflection. Something of direct insight would seem to have come to great men, to great artists, to great poets. One finds

it in such lines as those of Wordsworth, when he speaks of the

> "Sense sublime
> Of something far more deeply interfused,
> Whose dwelling is the light of setting suns,
> And the round ocean and the living air,
> And the blue sky and in the mind of man;
> A motion and a spirit that impels
> All thinking things, all objects of all thought,
> And rolls through all things."

Ah! In the poets, when at their best, we have the discernment of what has been the last, and perhaps the highest, result of the greatest speculative thinking in the history of Philosophy.

Let us then rid our minds of this dogmatic presupposition which blocks the way. Let us set out on the search after the nature of God with our minds free. Let us begin by trying to get some clear notion of that of which we are in quest. To me it seems that by God we mean, and can only mean, that which is most real, the Ultimate Reality into which all else can be resolved, and which cannot itself be resolved into anything beyond; that in terms of which all else can be expressed, and which cannot be itself expressed in terms of anything outside itself.

But this definition, the only definition which is at all adequate, enables us at the very commencement to rule out a number of conceptions which have often passed current, but which have never been used without getting the people who

used them into difficulties. For example, you cannot talk of God, regarded as the Ultimate Reality, as a First Cause. That proves to be a totally inadequate metaphor, because cause and effect is a relationship that obtains and can obtain and have meaning only within the object world of experience, in the forms of Time and Space. Your problem is in point of fact directed to the existence and significance of that very object world itself. It is, in Kantian language, a transcendental problem. For it cannot be assumed that the explanation of Ultimate Reality can be found within the field of the object world, the nature and foundation of that field being one of the very aspects of things which falls within Reality. You cannot, therefore, speak of God as a Δημιουργός, as a Creator of the Universe from the outside. He cannot stand to the world in the relation of a Cause. For He must be independent of Space and Time, and we can attach no meaning to a Cause excepting as operative within Space and Time. We must reject that conception as wholly inadequate. Nor do we fare any better if we define God as a Substance. A substance is that which we know only in distinction from its attributes or its properties. The substance of that table is what I mean when I have abstracted from it in my mind all the properties by which I recognise it. Substance is a conception arrived at by negation, and has meaning in relation only

to accidents or properties. To define God as Substance would, therefore, be to define Him as something relative, and not in the deepest sense of the word real. We must go further down for our foundations. Now there is one conception which, provisionally at least, we may use, because it is the one that does go deeper than any of these — the conception of God not as Substance but as Subject.

Let me try to make clear to you what is meant by the expression Subject. Supposing the Universe could be traced back to a point at which we were contemplating it as matter in a gaseous form at some enormous temperature, ready, in course of time, to evolve itself in accordance with well-known physical laws into the starry heavens which we know, the solar system in those starry heavens to which our globe belongs, and the world on which we live as an appendage or part of that solar system. Supposing that we could trace our globe back to a condition in which there was no life in it, at which it had only begun to assume shape as the gaseous matter had begun to solidify. What then? We should have eliminated life from the face of that globe; but still that globe, that solar system, that universe, that mass of gaseous and incandescent matter, would be there only as object for the subject. It could have no meaning on any other footing. Its colour, for colour of some kind it would have, would import the impressions called up in the brain of a

spectator by the waves of ether it caused traversing space and striking the retina of the spectator. Its time-duration would only have meaning to somebody who could conceive and measure it—ay, and remember it, so that past and present might be brought together and contrasted with the possible future. Its relations of space would not have meaning for a lizard, nor even for a more highly organised intelligence, but would be intelligible only to a mind possessing the categories and conceptions of quantity, and able to take them in. The appearance of that Universe to a being endowed with totally different senses would be wholly different from the appearance of that Universe to a being endowed with the senses that we possess.

Now, you do not get out of this difficulty by saying: "Oh, but a human being, a man, is not to be assumed to be there, because we have not reached that stage." The question is, what is the meaning of the object world in which such a Universe would appear, excepting for a mind or subject to which it was object? And the answer must be that it would have no meaning at all, and, therefore, be nothing in any sense that we can assign, except in relation to a percipient mind. And thus it comes about that even from the very beginning of things you have to presuppose mind, if you would speak in any language which is intelligible or communicable, and the deepest relation of all is that which you find when you

go even to the very commencement of the Universe, the relation of being object for the subject.

If experience means that of which we have been and are conscious and have arranged in our mind—the systematised consciousness of our perceptions, past and present, still it has no meaning except as somebody's individual experience. That deepest relationship of being object for the subject, crops up at every turn. Professor Fraser has shown what was the meaning of the new question which Bishop Berkeley put to the materialists. He asked what Locke meant by the substance which was the foundation of the supposed properties of matter, and his answer was that it was a mere name significant of nothing with an assignable meaning, significant of nothing that could be described or spoken of, that, in fact, it *was* nothing. And the conclusion of Berkeley may be summarised, as Professor Fraser points out, in the expression "To be is to be perceived." Do not imagine that I am suggesting that to be, means merely to be perceived by me, as an individual. That, of course, would be nonsense. I did not make the Universe, the Universe has rather made me. But, on the other hand, you will find that as we work that out, in the dilemma which you can put you have asked a question which does not arise when its origin, which rests on a misapprehension, is properly grasped, and you will see that the theory of Bishop Berkeley, worked out in its fuller and

deeper meaning, does not in the least imply the notion that the Universe is just a series of states of my individual mind, or the doctrine known as "Solipsism," the doctrine that the individual mind which perceives is the only existence in the Universe.

But I do not want to dwell upon Berkeley, because I wish to quote to you what, to my mind, is the still more remarkable utterance of John Stuart Mill upon this very subject, in what I think was the greatest of Mill's philosophical writings. Mill goes very far down and gets very near to the conclusions of the great thinkers who arose in Germany a century ago, conclusions to which many writers and thinkers in our time are now tending.

Mill shows that the belief in an external world arises in this fashion. There is no direct feeling or perception of such a world. * "When," he says, "we think of anything as a material substance or body, we either have had, or we think that on some given supposition we should have, not some *one* sensation, but a great and even indefinite number and variety of sensations, generally belonging to different senses, but so linked together that the presence of one announces the possible presence at the very same instant of any or all of the rest." Thus we get the belief in permanent possibilities of sensation, and also

* Mill, *Examination of Sir William Hamilton's Philosophy*, p. 223. (Third Edition.)

of a fixed order of succession among the groups. Thus he says,* referring to the result of the laws of association of ideas, "the sensations, though the original foundation of the whole, come to be looked on as a sort of accident depending on us, and the possibilities as much more real than the actual sensations, nay, as the very realities of which these are only the representations, appearances or effects." "The whole set of sensations, as possible, form a permanent background to any one or more of them that are, at a given moment, actual, and the possibilities are conceived as standing to the actual sensations in the relation of a cause to its effects, or of a canvas to the figures painted on it, or of a root to the trunk, leaves and flowers, or of a substratum to that which is spread over it, or, in transcendental language, of Matter to Form."

Aristotle might have written that sentence, or Kant, or Hegel, just as well as Mill. He goes on to speak of the permanent possibilities:—† "When this point has been reached, the permanent possibilities in question have assumed such unlikeness of aspect and such difference of apparent relation to us from any sensations, that it would be contrary to all we know of the constitution of human nature that they should not be conceived as and believed to be, at least as different from sensations as sensations are from one another. Their groundwork in sensation is forgotten, and they are

* *Idem*, p. 225. † P. 225.

supposed to be something intrinsically distinct from it. We can withdraw ourselves from any of our (external) sensations, or we can be withdrawn from them by some other agency. But though the sensations cease, the possibilities remain in existence; they are independent of our will, our presence, and everything which belongs to us. We find, too, that they belong as much to other human or sentient beings as to ourselves. We find other people grounding their expectations and conduct upon the same permanent possibilities on which we ground ours. But we do not find them experiencing the same actual sensations. Other people do not have our sensations exactly when and as we have them; but they have our possibilities of sensation; whatever indicates a present possibility of sensations to ourselves indicates a present possibility of similar sensations to them, except so far as their organs of sensation may vary from the type of ours. This puts the final seal to our conception of the groups of possibilities as the fundamental reality in Nature. The permanent possibilities are common to us and to our fellow-creatures; the actual sensations are not. That which other people become aware of, when and on the same grounds as I do, seems more real to me than that which they do not know of, unless I tell them. The world of possible sensations succeeding one another according to laws is as much in other beings as it is in me;

it has therefore an existence outside me; it is an external world."

In other words, reflection, not impression made from without, is the source of our knowledge of the object world, and only in so far as they reflect in the same way, or have the same system of thought about that world as we have, does that world exist for other people and ourselves in common. Our sensations they cannot experience; nobody can penetrate into the feeling of another being, or in the least realise it except in its qualities or properties,—in other words, in universals or general conceptions which can belong only to thought. Our sensations they cannot experience, nor can we experience theirs. Sensation is, as Heraclitus said long ago, by its very nature perishing and incommunicable, the unique and exclusive property of him who has it. The real world lies in the common system of what we *think* are sensations. If I have a feeling, for instance, a feeling of heat in my finger, you cannot, any of you, experience that feeling, but what you can become possessed of is the description which I give of what I feel. But if you examine the words of description they all convey not sensations to your mind but reflection, judgments about sensations, general conceptions, what are called, in the language of Philosophy, universals. I say "hot" of the fire; hot is a general conception. I say of the light "bright"; bright is a general conception. By enough of words, each of them

expressing a universal, I can give you sufficient abstract thoughts to enable you to frame a general conception, and in this sense I can communicate the actual feeling which I have. It is something perishing which can only be fixed and described by universals. That is what Heraclitus meant to convey, and that is what Mill meant when he said that the realities of the world consist in the Permanent Possibilities of sensations.

But Mill does not stop here. He applies his psychological analyses to the Mind, which he finds in like manner to be a series of present feelings and possibilities of present feeling. Yet he comes on a difficulty which he tells us his analysis cannot resolve. The idea of a mind substance he has got rid of, but, to quote his own words:—* "Besides present feelings and possibilities of present feeling there is another class of phenomena to be included in an enumeration of the elements making up our conception of Mind. The thread of consciousness which composes the mind's phenomenal life consists not only of present sensations, but likewise, in part, of memories and expectations. Now what are these? In themselves they are present feelings, states of present consciousness, and in that respect not distinguished from sensations. They all, moreover, resemble some given sensations or feelings, of which we have previously

* P. 241.

had experience. But they are attended with this peculiarity, that each of them involves a belief in more than its own present existence. A sensation involves only this, but a remembrance of sensation, even if not referred to any particular date, involves the suggestion and belief that a sensation of which it is a copy, or representation, actually existed in the past; and an expectation involves the belief, more or less positive, that a sensation or other feeling to which it directly refers, will exist in the future. Nor can the phenomena involved in these two states of consciousness be adequately expressed, without saying that the belief they include is, that I myself formerly had, or that I myself and no other shall hereafter have, the sensations remembered or expected. The fact believed is that the sensations did actually form, or will hereafter form, part of the self-same series of states, or thread of consciousness, of which the remembrance or expectation of those sensations is the part now present. If, therefore, we speak of the mind as a series of feelings, we are obliged to complete the statement by calling it a series of feelings which is aware of itself as past and future; and we are reduced to the alternative of believing that the Mind or *Ego* is something different from any series of feelings, or possibilities of them, or of accepting the paradox that something which, *ex hypothesi*, is but a series of feelings, can be aware of itself as a series." . . . "The true incompre-

hensibility perhaps is, that something which has ceased, or is not yet in existence, can still be, in a manner, present; that a series of feelings, the infinitely greater part of which is past or future, can be gathered up, as it were, into a single present conception, accompanied by a belief of reality."

Now Mill endeavours to account, or assumes rather that he can account, for this intellectual system in which he places reality by the principle of association of ideas on which he laid much stress. But when you come to examine the theory of the association of ideas, you will find that Mill overlooked the fact that before you can get associations growing up in the mind, you must already, as the basis of the process, have the system in which the ideas are arranged, the expectations, the beliefs in the possibility of recurrence of the past sensations or sensations like them, the co-ordination of the feelings in Time and Space, the very system which is to be accounted for through association of ideas. The system which gives its only meaning to the word reality, cannot, therefore, itself be explained through the theory of association. I shall have to return to this in a later lecture, and I will only mention it now.

But, meanwhile, what is remarkable is that Mill recognised quite completely, as completely as any Hegelian idealist could do, that the reality of the world around us, its externality,

its independence, lies in this, that it is an objective system in which the mere sensations of the moment are in themselves transient and have no abiding reality. Reality consists in the fact that the mind in all men fixes and thinks these sensations in like relations. Therefore, in the universals of thought, and not in the impressions of sense, are to be discovered the true foundations of the world.

So far it is easy to get, but the important question that arises is: What does this lead us to? Berkeley and Mill agree that it is in the recognition which our intellects *must* make of a system of laws and principles according to which sensations and feelings are actually and possibly experienced, that the reality of the world, external and internal, lies. Thought rather creates things than things thought. How is this possible? Well, we have got to dig deep down into what is meant by the world being independent of our individual wills,—in other words, what is meant by the objectivity of the system of universals which form the setting in which our impressions and feelings arise. If it be true as they think, and as, indeed, nearly all competent thinkers agree, that the actuality of the world around us, the reason why it is so and not otherwise, and why I cannot alter it by my will, lies not in some "thing-in-itself," the notion of which I cannot express in words, and which vanishes under Berkeley's question, but in the

fact that my mind like the minds of other people is compelled to think the world according to a system of conceptions, to think it in what may be called an objective system, then I am travelling on a new road. It is in this conception, along this road, that we have got a direction in which to seek for the Ultimate Reality. The relation of object to subject becomes in this sense the deepest relation of existence, because existence has now resolved itself into the fact that the subject thinks the object, presents it in a fashion which is not arbitrary but determined by laws of thought. Well, that brings us to the verge of a problem which is yet more difficult, more remote, than any we have got to so far. What must be the nature of the mind which thinks thus objectively, and which, even as manifested in individual form, compels the individual to think thus objectively?

We have got so far a very little way on our journey. To discover that the deepest relation of existence is being object for a subject, is the beginning of wisdom, but the beginning only. We may liken ourselves to the pilgrim in whom feelings of wonder and even alarm have been excited by the tidings which have reached him in the City of Destruction. He has begun to look for a way of escape. He sees in the distance the wicket-gate, but he must cross the Slough of Despond before he can reach it. We shall have, in the next Lecture, to endeavour to

find some firm ground on which to keep our footsteps, from what, to many of you, has seemed a veritable Slough of Despond. To change the metaphor, we are still in shallow water—water too shallow to enable us to swim properly in it, and we must trust ourselves boldly into deeper water before we can learn to swim properly. To-morrow, I hope to endeavour to put before you some considerations which may tempt you to think that the deeper water is the safest place to swim in.

LECTURE II

We have to try this afternoon to get a stage further on our journey and to make some definite progress along the pathway to Reality. For this purpose it is essential that we should bring the method of thinking consideration to bear upon the problem of the nature of mind, and of its relation to the object world of its experience. And before I enter upon that task, I think I had better summarise shortly the results of yesterday's lecture.

I began by speaking of the purpose which Lord Gifford had before him in founding his trust, and I said something of the spirit in which, so far as I was concerned, I should try to carry out his wishes. I pointed out that, in consequence of a common but fallacious assumption, the history of Philosophy was often taken to be no more than a story of hypothesis after hypothesis being thrown overboard in favour of new and inconsistent conjectures. I reminded you that, while such a procedure was inevitable when, with the aid of the chronometer or the measuring-rod or the balance, we were verifying conjectures about physical

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occurrences, such as successions in time or combinations in space, it was neither necessary nor possible when we were examining the relations to each other of phases of art or morals or history, or even when we were watching the simplest course of development in animal life. There, development was called true, not when it accorded with some external standard, but when it disclosed the fulfilment of the purpose or quasi-purpose of the life of the organism. The true type, for instance, of feminine beauty is not the type which we should accept in the case of men. In like manner, in the history of Philosophy measurement was not a possible test. In this case the truth was rather to be looked for in the adequacy of a conception to the explanation of the matter with which it had to deal. I pointed out that you had only to read the best histories of Philosophy to see that, from this standpoint, we had been the witnesses of the growth of a conception ever increasing in depth and breadth, deepening and broadening as criticism succeeded to construction, and again construction to criticism; developing itself, as experience discloses, at different rates in different periods, with times of apparent stagnation and times of obvious vitality, adjusting its scope to the new materials and the fresh science which the Time Spirit called into being, but never going back on its traces. *Vestigia nulla retrorsum* is the motto of the philosopher. Our first task in these lectures must therefore be

to get as clear a grasp as possible of this conception in a form appropriate to our age. The contributions to it in the past of some great minds, such as Hume and the famous sceptics, had not been the less valuable or in the common line because they had been in the main negative, and directed primarily to disclosing inadequacies and abstractness in what had gone before. But it was in the constructive work of the outstanding men of metaphysical genius, men such as Plato and Aristotle, Kant and Hegel, that, making allowances for differences of time and place, we should look with most hope for our materials.

Having so defined the spirit of the endeavour, I insisted that no effort to get a view of the nature of things could be adequate, which failed to take account of all the phases of the world as it seems. These, the common heritage of plain men, we could neither rule out nor ignore. We had to account for them. To this end, if we had to pull the world as it seems to pieces, we were bound to try to bring the pieces together again when we had ascertained their meaning and relation to each other. Our first business appeared to be to try to find out as clearly as we could what we meant by the word "Reality." For God, the investigation of whose nature was our purpose, could not be less than the supreme reality; that in terms of which all else could be expressed, and to which all else could be reduced, and which could not itself be expressed in terms of anything beyond, nor reduced

to any other level. This simple consideration excluded the notion of God as a Cause, first in time, and acting *ab extra*, that is, in space. The thinking consideration of the nature of the real disclosed that the popular accounts of His nature must be looked on as metaphorical merely. Nor could He be defined as Substance. For that again imported a relation to properties distinguished from it. What then could His real nature consist in if the conceptions of Cause and Substance were inadequate to it? We had to try whether we had better fortune if we spoke of Him as Spirit, as Subject, and not as Substance.

If with the aid of Science we were to retrace our steps, and get back to a Universe of atoms and energy in the form of gas at a high temperature, that Universe, mechanical though its conception, to the exclusion of mind as an object *within* it, could still have meaning only as object for the subject. To be this is the deepest, most real and supreme of the relationships of experience. All others presuppose and are based on it. If we take an experience even in the most limited sense of the word, as meaning only what we have personally perceived and arranged in our minds; the directly presented and systematised content of our consciousness, the fundamental fact which emerges is that it has meaning and exists only as object for the subject. Apart from Mind and except as *for* it, Matter is an absurdity. The doctrine of Berkeley that *esse* is *percipi*, and Mill's

theory of the system of permanent possibilities of sensation as the *reality* of the worlds of Matter and Mind alike signify just this fact.

In getting so far as this, we have not crossed the *pons asinorum*. For this result is almost a common-place. The question is what the conclusion implies as its premises. The first difficulty is to get a working conception of the relation of subject and object. Short of this, there can be no rest for the sole of the foot of the searcher after truth. The world as it seems is a hard-and-fast reality. It was not created or even constructed by you or me as we perceived it. It was there before we existed, and will be there after we cease to exist. Nay, we form but small parts in it, insignificant events in its history; we are its creatures, at least as much as its creators.

These results are, after all, mainly negative. They have taken us away from an old crude conception of the relation of Mind to Matter, the conception of realism. Yet they have not brought us very far. They have taught us, however, one thing, and that is that we are very prone to make an abstract separation of the mind from its object, and to represent the two as if they could be regarded as things different from one another in space and time. People forget, when they speak of object and subject, that they cannot be talking of two separate things, because what they are trying to do is to define the relation of

the mind to its object world, an object world which, as Berkeley and Mill have shown, has meaning only as *for* it. Therefore, relationship of the mind imaged as a thing existing independently of another thing, its object, would be just one of those relationships which fall within the object world of experience, which have no meaning except as falling within that object world, and cannot be used to account for it. If we are to throw any light upon the relation of the mind to that object world, the nature and origin of which is the very thing which we have got to explain, it is clear that we must be in earnest. We must divest our minds altogether of the idea of mind as a thing, as properly described under the category of substance. Substance, the thing, I repeat, is the relationship of something to its properties, a distinction between the properties and the self-identical somewhat in which they inhere, and which can never be the direct object of perception. But the notion of this "somewhat" is a product of a process of abstract reflection which we enter upon only when we come to contemplate relations *within* the object world of experience, and which has no bearing when we are trying to find terms apt to describe the mind, the subject, for which that object world is there, and apart from which it has no meaning. It is only in reflection that the notion of the substance, as distinguished from its properties, or of the cause as distinguished from the effect, emerges. It is the result of a

system of thought analogous to that which Mill described in tracing the origin of the notion of permanent possibilities in relation to sensation and feeling.

Now I am quite aware that while this line of thought is very familiar to those of you who have been students of Philosophy, it is very difficult for people to follow who come to that study for the first time. The truth is that in the everyday world, in our daily life, we are able to use freely certain conceptions which are useful and valid when they are confined to their legitimate purpose of guiding us, guiding our minds in their everyday operation. On the other hand, when we come to the exact sciences, such as mathematics, we are constantly finding these conceptions quite inadequate and having to be replaced by other conceptions, the product of reflection. And when we come to Philosophy we find this to be so most of all, because language which is quite adequate in everyday life, language in which we describe ourselves as if we were things, living beings assigned to a particular time and to a definite place in space, and regarded, in this aspect at any rate, as things, from the time of birth to the moment when we are borne away in our coffins—that kind of language which is useful and legitimate for everyday purposes, becomes altogether misleading when we get to the problem of what is the true nature of reality. And the great difficulty which the metaphysician

investigating the true nature of reality has to face is just these incrustations of the everyday point of view, the language which we get into the habit of using, and the notions which pass current, and which are for everyday purposes sufficient, but which give rise to what we may call superstitions of common sense based upon them, such as that the mind may be properly spoken of as a thing.

I need hardly remind you that the standard of knowledge which we call common sense is something which is always changing as knowledge gets deeper. To the superstitious Chinaman, an eclipse is a source of terror. He regards it as a divine event, and takes refuge in concealing himself or in incantations. But, to the average person living in the West, the eclipse is nothing, is so familiar that he pays no special attention to it, but regards it as an ordinary occurrence. In other words, the point of view of everyday life about that phenomenon (as indeed about countless other phenomena) has changed. And so it is when we pass from common sense to Science, and from Science to Philosophy. We find our point of view constantly changing, and we find that we are dealing with material which involves the use of new tools in digging down to the foundations upon which we have to build.

Well now, the subject, the subject in knowledge, the mind, may be best understood in its true nature if we begin by taking it negatively. First

of all, let us contrast it with a machine. A machine is an arrangement of external parts such that, by means of an outside impulse, all the parts can be set in motion. But the parts are external to one another; they are separable. But now, even in nature, we get away beyond the externality of the arrangement of mechanism. In life we have in the organism this remarkable feature, that the life of the whole is present in each of the parts. Take, for instance, the body. The body, as biologists tell us, is made up, even in its apparently simplest tissue, of countless units of life, of what are called cells. But these cells act together in maintaining the common life of the organism. They form themselves and group themselves. We have the foot, the hand, the limbs, the various other parts of the body, and all these parts acting together, and permeated and dominated by the life of the body as a whole. But this whole of life does not in its work resemble a cause operating, *ab extra*, upon the organism, but is more like, more really analogous to, the purpose which the soldiers in an army or the citizens in a State are moved by when they act together. The cells of the body, the cells which make up the totality of the organism, act together purposively, or quasi-purposively, which is a better expression — and I refer to them in order to illustrate to you how really the analogy of the actual purpose of living beings, acting together in a regiment or in a State, is a better

analogy to the life of the organism than is the analogy of a machine. In the body you have got the quasi-purpose dominating the whole; but not only so; you have the organism pursuing a definite course from its embryo state to birth, and from birth to death, and so fulfilling an end.

Then again, you have got beyond that not only the demonstration that the process shapes itself for the benefit of the species, but, within the life of the individual organism, the remarkable feature which is called Metabolism. All the materials of which the organism is made up change in the course of a very short time. There is not a particle in the body which was there when the organism was born, but yet, by the conservation of the End through this Metabolism, the life of the whole is preserved, and the course of development is maintained. Now, under those circumstances, life discloses itself as something totally different from mechanism. In mechanism you have got mere externality and separability of the parts from one another. In life that externality is superseded, is overcome; the whole is present in each of the parts, and this notwithstanding that the parts are in a sense external to one another. The hand is external to the foot. By abstraction it may even be regarded as a separate thing. Certainly it may be called a thing when it is cut off and dead. In other words, the parts of the organism,

although they carry out a common quasi-purpose, are yet in another aspect external to one another. They resemble mechanical things in that other aspect.

But now, when you come to the mind, you will find that the mind is just as different from life, as life is different from mechanism. The mind manifests itself in its thoughts, in its activity, and yet its thoughts, its feelings, its impressions, its activity, are all there *for* the mind and have only existence *in* the mind. They are in no sense separable, like the hand and the foot, from one another. They have their existence in the activity of the mind as a whole. The activity of the mind manifests itself in its particulars and differences, and its particulars and differences exist only for and in the conscious mind in which they occur. In other words, the whole, the mind as a whole, exists only in its manifestations; and, on the other hand, the manifestations have no meaning apart from the mind of which they are the manifestations. My consciousness cannot be broken up into what I am conscious of, as one thing, and the self that is conscious, as a separate thing. My mind is a unity which cannot be broken up—a unity of thought which maintains itself amid boundless difference and ceaseless activity.

When you have got to the notion of mind, you have altogether transcended that conception of things as external to one another with which

you are affected, to a certain extent, in considering the nature of the organism. Take, by way of showing the contrast between the action of an organism and a mental operation, the example of a melody. What is a melody? A melody is an arrangement of sounds which, comprehended in the light of a relationship that pervades and unites them, form for the mind a musical whole. It is only, for instance, when the sounds of a sonata of Beethoven take their places in the sonata as a whole that they have any significance. The sonata is nothing apart from its course, and yet its course has only its meaning through the musical conception which pervades it, and gives it its utterance. Now that utterance is only for a being that *thinks*. For a sheep or a pig it is not there. It is the work of the mind, present in every sound as apprehended, and qualifying it in reflection.

You have in this work an illustration of a great truth, that the universal is nothing apart from the particular, and the particular is nothing apart from the universal. If we look into our own minds we shall see just the same thing in countless other forms. Hume was quite right when he pointed out in his "Treatise" that he could not find what Bishop Berkeley seemed to think he could find, some idea of the mind as apart from its impressions and ideas. He could not catch any perception of the self. No, because there is no perception of the self to catch. The

self is nothing apart from the activity of its mental life, and the mental life has no existence except as in a self, as in a mind which gives it its unity and its meaning, as the mental act of musical conception gives its meaning to the sonata of Beethoven.

If you look into your minds, you will find one thing characteristic of them, which is quite different from any phenomenon in the external world of objects, and that is the power of free withdrawal. You can withdraw your mind from its own experiences. You can withdraw it to almost any extent, as the martyrs at the stake, when under the influence of a powerful enough faith, have been able to withdraw it from their own pain and even from their own death. If you try to analyse the notion of self which you have there into mere feeling, you will fail to grasp any feeling of the self as a particular object. You will find that what you at first take to be such a feeling, on scrutiny recedes into mere corporeal sense, the consciousness of the body as sentient. And then it turns out that these sensations of the body derive their significance only from the previous conception of the body as that which has them. Experience is just the manifestation of mind disclosing itself in the organisation of its object world—the object world which is for it—and the mind as subject is just the other pole in the process. It is only in reflection that we separate the one from the other. We are outside

the region of mechanism; we are outside even the region of life. Their real existence is in one whole of activity.

Well now, this brings people to what looks very like a Slough of Despond, for, say they, the world is a hard-and-fast world, and it was not made by us. It is all foreign, and in our knowledge we have but a fragment of it. Now we do not question this, those of us who reflect along these lines. It is no business of Divine Philosophy to disfigure her countenance by running her head against brick walls. It is ridiculous to suppose that my mind makes the Universe. But then, as Mill showed in the passage which I quoted to you yesterday, existence has no meaning except *for* thought and *through* thought, and, therefore, it is plain that *in some sense* reality is simply the work of mind. We are reduced, therefore, to this, that it is with regard to the nature of mind that the difficulty comes in.

Then what is the "I" that does *not* make the world? Well, when you think of it, it is perfectly plain that this "I"—this M. or N. as the case may be, living in a particular period, in a particular place, with particular relations, with a particular past and a possible future — cannot be what makes the Universe, but discloses itself only as a secondary and derivative conception which we get by reflecting on it as something within the object world of experience, the outcome of a particular standpoint. But now we

must be careful about our metaphors, for Philosophy has often got into disrepute by using metaphors unreflectingly and uncritically.

It is plain to common sense that, in one meaning of the word, at any rate, thought does not make things. A distinguished writer, Mr Bradley, has summed up the case against that doctrine in the declaration that the Universe is "no unearthly ballet of bloodless categories," and he, and that acute critic, the present Prime Minister, have directed heavy artillery against those who seemed to suggest the contrary. Not least, at any rate in the case of Mr Balfour, has the artillery of common sense been directed against the late Thomas Hill Green, a man to whom Philosophy owes a great deal, but who certainly did give countenance in some of his expressions to the notion of a mind as constructing its object world, as though *ab extra*. Mr Green, of course, knew a great deal better than that, and I doubt whether he has been properly understood. He has suffered from a too copious use of metaphor in his writing, always a dangerous thing. But there is no doubt that there have been others who have proved too zealous interpreters of what they believed the great Germans to have laid down. I remember that, when I was at the University, a distinguished student of Philosophy, once, in an essay, described the Universe as a "thick complexus of intelligible relations," greatly to the disgust of the distinguished Professor who had to adjudicate on the

essay in which this phrase occurred. It suggests a saying of which the late Master of Balliol was fond: "A false quantity in a man is like a *faux pas* in a woman."

We must abjure, therefore, crude metaphors such as "making" and "constructing." Thought does not make and construct, in the sense in which making and constructing take place in the object world of experience. We have to face the difficulty that, on the one hand, there is no apparent answer to Mill's argument for the doctrine that *esse* is *percipi*, or *intelligi;* and that, on the other hand, we cannot possibly regard the self as a something external to the world or independent of it, and constructing it out of universals. We cannot even express the rich, warm, concrete universe in terms of the abstract universals of thought. Therefore, we seem driven to the conclusion that the nature of Ultimate Reality cannot be sought in a world of mere universals. With this before our minds we have to scrutinise the nature of experience. But we are forced to observe at the outset that the object world of experience is always presented in reflection more or less abstractly. We cannot even *name* the objects around us except by fixing on some aspect which forms but one feature in their individual actuality. The time, for instance, is no sooner pronounced to be one o'clock than it is past, and discloses its nature as a mere vanishing point abstracted from what is continuous and changing. "Now" is a universal,

which is only true of each moment as it succeeds to the one that has passed. To this consideration we shall return later on.

Now, the problems which I have been discussing to-day are no new problems, nor are the solutions which I am going to suggest new solutions. We are coming back, as others have come back, after two thousand years, to the light furnished by the Greeks, who thought about these things with a singular freedom from the incrustations of misplaced metaphor which baffle us. The Greeks had less difficulty than we in avoiding the suggestion of the individual as a thing outside another hard-and-fast thing, the universe with which the individual was confronted. Perhaps it was the influence of Christianity in raising to such a high level the value of the individual that turned men's thought into another channel; but this much is clear, that the fruitful period of metaphysical speculation ceased at the time when Greek thought ceased to be dominant, and for a very long period did not revive.

The other day, in looking into the latest collection of the *Fragments of Heraclitus*, I found a remarkable sentence, quoted, indeed, by the earlier collectors of these fragments (such as Bywater), but quoted in a different context where it had less importance. In Hermann Diels' new book *Herakleitos von Ephesos*, there is a sentence which puts the teaching of Heraclitus, I think, in a different light from that in which it

is generally put. Most people think of Heraclitus as having summed up his philosophy in the famous phrase: "All things flow"; the Universe is made up of particulars which are in a constant state of flux, and there is nothing real. But in the edition of Hermann Diels is a remarkable sentence,* standing by itself: "Thinking is what exists as one and the same in all men." If you take that, and I think you must, as meant seriously, it shows that Heraclitus had a distinct notion of what it is that imparts stability and objectivity to the flux of the impressions of sense, the fleeting nature of which he had clearly seen. It distinguishes Heraclitus from Sophists like Protagoras, with whom Plato deals, who declared that man was the measure of things, and that there was no such thing as objective truth.

In the *Theætetus* Plato first of all disposes of Protagoras, and it is only later on in the Dialogue that he turns to Heraclitus, and then through the lips of Socrates he brings us to the verge of setting up, what Plato ultimately did set up, just that doctrine of Heraclitus, that "thinking is what exists as one and the same in all men." Take, for instance, in order to get at the meaning of Plato, what by analysis of our minds we find our "impressions" to be. We find that there is no answer to Mill's reasoning as contained in the passages which I quoted to you from the *Examination of Hamilton*, that all our impressions are in a

* P. 26: "ξυνόν ἐστι πᾶσι το φρονέειν."

state of flux; that it is only in so far as they are, so to speak, put into a system by reflection, in so far as by the aid of memory, by judgments of arrangement in space and time, they are *set*, that you get the kind of "orderliness" which Berkeley held to be the essential feature in the Reality of the Universe. Well, but that must be the work of thought, if our analysis of the relation of the mind to its object world is a true one.

Now Plato, accepting this conclusion, said that what makes the world into an objective system is just the universals of thought. But in the abstract fashion which comes out in his doctrine, he separated these universals from the particulars of sense and set them apart as self-subsisting realities, with the result that it is very difficult to follow his reasoning. Then after Plato came Aristotle, who was not only a great speculative thinker but a great observer of the actual. The actual was what most of all interested Aristotle. The great step he took was to show that the universal existed *in and through* the particular, and that the existence of the particular was *in and for* the universal. He saw clearly that the particulars of Heraclitus were fleeting and perishing, and that they could not even be named. To say, for instance, that something is here and now is to use a universal, a general name. This paper is here, but, as I move away, the next moment it is there. That paper is there, but again it is now here. It is plain that

the expression "here" signifies a universal relation which is significant only for abstract thought, for reflection, and whether you take the "here" or the "now," or the "this" or the "that," you will find all these names indicative merely of universals. Still, as Aristotle saw, while its "thisness" is a universal, what is "this" cannot be constructed out of universals. You cannot deduce the Universe out of the universals of thought, any more than you can divide or divorce thought from its object or from the particulars of sense. Aristotle came to the conclusion, therefore, that in the indissoluble union of the two, of the universal of thought and the particular of sense, the Real was to be found, and to be found always as an individual. The individual, then, of experience, and all experience is in its nature individual, is in this light what is ultimate, that behind which we cannot go, what we can separate into universal and particular moments in abstract reflection only, and not in reality. It is the ultimate phase to which you come back. But for Aristotle the individual was what it was only in virtue of—I do not like to use the word "coalescence,"—the union in the individual of what I have called two "moments," the universal and the particular, which you can only divorce by abstraction. I am paraphrasing Aristotle into my own words, but that is the substance of his teaching. In reading Aristotle you are embarrassed partly by the want of a complete collection of his works, and, I am

afraid, also by a certain confusion which one cannot explain away. In his Logic, he seems to treat the universal as if it were the same thing as a whole of extension, as a class, and the result is that his Logic is mainly concerned with the discovery of the common properties of individuals, the formation on the basis of these of a class or whole, followed by a return from the class to the individuals which were aggregated in it.

But though in the Logic the universal appears in the main as the class or whole of extension, in his Metaphysics, and, most of all, in his Psychology, he is thoroughly clear about his great doctrine of the relation of the universal to the real. People misunderstand Aristotle very much when they think it odd that there should be ascribed to him the doctrine that there is "nothing in intellect which was not first in sense." Perception gives you the individual; the universal you only get by abstraction. But then, he also says there is nothing in sense which was not first in the intellect. The particular of sense only gets its meaning, its distinction from nothingness, its existence, in qualification by the universals of thought.

Now, what makes Aristotle so great is his freedom from the narrowness which appears in the use of such bad metaphors as "make" and "construct" when applied to the relation of thought and its object. Such expressions, and the expression "the relation of subject and

object," are apt to be very misleading. They are the outcome of an abstraction, relatively and provisionally necessary for certain purposes, but abused when made outside of these purposes. Our purposes and the plane of reflection which we occupy in following them, colour our view of reality, and limit the aspects it presents to us. Look at the table in front of me. A being who had no accumulated human experience—a baby, for instance, and still more, one of the lower animals, such as a lizard—would not know that it was a table. For such a mind, at such a plane of intelligence, it would not *be* a table. It is only because of conceptions with which the mind has become informed that I recognise this as a table, distinguish it from other things, and arrange my conduct accordingly. But, even so, I take a very abstract view of the table. If a carpenter were to cut down a tree, and, while the wood was still fresh, make a table of it, we should still look upon it only as a table. But the wood would have another aspect in its reality. It would still be living; it might still, like the Rod of Tannhäuser, develop and burst into blossom. Yet by abstraction the whole world, until its attention was directed to the other point of view, would determine it, fix it, as a table, and as nothing else.

Aristotle called the universal "form" as distinguished from "matter." The matter is the raw material of sensation. The conception under

which we identify the object and pronounce it to be a table is the form, the universal, the activity of thought, the position and setting which gives it its meaning, and, as we shall see presently, its reality. The universal, the form, what he called "Eidos," is, as distinguished from the matter, the definite aspect; it is what introduces determination and character into the matter, which is an indefinite which requires specification and determination before it can be recognised as an individual.

Well now, matter can only be regarded as coming before form in the course of the building up of the world of experience of an individual regarded, as in one aspect every human individual must be regarded, as having a history in time and a knowledge which develops in time. You begin in individual experience, in your mental history, in time, with the indefinite, and make it definite. But then you can perceive that in making it definite you have been guided by these very conceptions and categories which afterwards turn out to be the form, the "Eidos," as Aristotle called it—the form which gives its meaning to the particulars of sense, and gives its reality to the world of things.

Matter, in that point of view, has real existence only in the light of the form which gives it its character as individual, although in the history of the individual struggling after the light and guided by what one may call the objective neces-

sities of thought in the process, the matter is presented as coming first, and the form as coming second.

Now that may seem to you to be a very modern sort of analysis of the problem, but I should like to quote to you just a few sentences of the *De Animâ* of Aristotle, because they show in a very striking way how far Aristotle had got in this direction. In the fourth chapter of Book III., he says: * "In the case of immaterial objects" (that is general conceptions or abstract universals, such as Mill's Permanent Possibilities of Sensation) "the subject thinking and the object thought are one and the same; just as speculative science is equivalent to the objects and ideas of speculative knowledge (a fact, it is true, which leaves the question, why we do not always think, to be investigated). In the case, on the contrary, of those objects which are imbedded in matter, each of the ideas of reason is present, if only potentially, and implicitly. And thus reason is not to be regarded as belonging to and governed by the things of sense (reason being a faculty independent of the matter of such objects), but the world of thought must be regarded as belonging to and regulated by reason." † "The forms of reason," he goes on to say in the eighth chapter of the same book, "are not something different from the

* Aristotle, *De Animâ*, Book III., end of Chapter iv. Wallace's Translation, p. 159.

† Aristotle, *De Animâ*, Book III., Chapter viii. Wallace's Translation, p. 171.

forms of sense. As there is, according to the common opinion, no object outside the magnitudes of sense, it follows that the ideas of reason are contained in the forms of sense, both the so-called abstract conceptions and the various qualities and attributes that determine sensible phenomena."

Thus Aristotle refuses to listen to any attempt to show that the concrete riches of immediacy are put together out of universals which exist outside and apart from them. And yet he holds equally firmly that it is only in and through the intelligible notions which are imbedded in sensations and which give them their substance that these sensations have reality. We shall see that Hegel asserted the same position as against Kant.

There has been a very great deal of discussion on these matters since Aristotle's day. The importance of the doctrine that thought makes things in the limited sense I have indicated, is that it gives you an explanation of what we mean by "objectivity" and the "reality of the world." Mill has declared that reality can lie only in a system of permanent possibilities of experience of sensation, of feeling. But that is a hard thing to grasp; it is a hard saying. Yet, I think, I can show you, by way of conclusion to this lecture, very shortly and simply, that the mere hard-and-fastness of this world as it seems, the mere being beyond the control of our wills, is not the test of its reality, or what makes it a real world for us. If you look into a stereoscope, you will see what

is really a series of lines in two dimensions assuming the aspect of being in three dimensions—you have what is called a stereoscopic view. There you have got the conviction of the hard-and-fastness of the supposed three dimensions borne in upon you, and yet you know it is not true because it does not consist with the rest of experience. In the same way, the hypnotised person has a world of his own, hard, fast, and beyond the control of his will, a world produced out of his subconscious self under the influence of suggestion. It is not the real world, and yet it is a world which seems absolutely real and genuine, and the only real and genuine world, to the hypnotic subject. The madman, again, believes firmly in the reality of his world, although that world has no reality from the larger point of view of sane intelligence.

The test of hard-and-fastness cannot therefore be the criterion of reality. That reality cannot be found merely in the circumstance that the world is beyond the control of our wills. It must lie in something deeper down than that, something the nature of which we now begin to divine, something I shall endeavour to analyse in my next lecture. So far, all we can say is that we have got a new light on the relation of the universal and particular. We have found that the individual phenomena of experience are inseparable wholes, not to be broken up or resolved into any aggregation of independent things, but uniting and giving reality to the moments of uni-

versality and particularity. We have found that the universal and particular are only abstract aspects of a single and indivisible reality which is always individual in character. We have found that in the individual, the mind, by abstract reflection, separates out and describes in language those universals which are the forms of its own activity in combining and setting the particulars of sense, and so finds itself there. But we have got to swim in yet deeper water if we would get at the truth about these matters, and in the next lecture I will try to clear away a mass of weeds which seem to impede the swimmer.

LECTURE III

I AM afraid that yesterday some of you may have found that portion of the pathway to reality which we had to tread, stony and dry. And yet it was essential that we should tread it. I had to show you how Aristotle refused to go behind the individual, how he recognised in the individual the ultimate form of reality, in the sense that individuality could not be deduced from any premises or shown to be brought about by any ground or cause, and, at the same time, could not be resolved into terms of anything beyond itself. Individuality was for him, as it was for Hegel after him, the ultimate form of actual experience.

Indeed, it is not necessary, and not only is not necessary, but is not rational, to ask how individuality is made. Such metaphors as "making" and "constructing" belong to that object world of space and time which is itself individual in form. They therefore cannot, as I have already more than once pointed out in these lectures, be used to explain it. Individuality is neither the result of a putting together in space, nor the outcome of any process in time. It is just what we indicate

and do not define when we point and say "that is." It is the present reality with which we are in direct contact, and from which we start and must always start — the form of the ultimate reality to which we always come back.

I showed you that while Aristotle, like Hegel, takes the individual to be the true form of the actual, he still recognises that in reflection you do separate in the individual two moments, which you try by abstraction to keep apart from each other, the universal and the particular. The "that," the "is," what I mean when I speak of my immediate experience, is what confronts the mind as ultimate, but yet has for reflection these two moments of the activity of thought. In my immediate experience alone do they gain existence. Now, my immediate experience has meaning only for my mind, and my mind has meaning only in experience. The individual, therefore, *is* only as the form in which the mind and its experience exist, a form which mind alone can resolve by its power of abstract reflection about its own processes. But if this form be the form of mind, it must be like mind itself—not inert, lifeless identity, substance, but changing, living, self-resolving, and self-sustaining subject. The view I have of the sea out there is complete in itself, self-subsisting, unique. Thought rests in it satisfied that it has found immediately presented individual existence. Yet it is only there for me in virtue of an infinity of judgments, of relationships, of universals, and these are in

their nature self-altering and self-developing. The horizon looks to me bounded as it does because there is implied in my recognition of it, and of the entire view, a reference to myself as a spectator in a particular position. If this changes the view changes. The simplest individual perception, even what seems to approximate to the barest feeling, involves, as part of its nature, an infinity of relationships which can be established only reflectively. The simplest individual perception is determined by potential relationship to everything else in the Universe. Nay, more, it is implicitly the Universe itself. When I judge about the poorest of subjects, whatever it may be and however bare its nature, it occupies for me a unique place exclusive of all other reality, and yet potentially inclusive of it. I cannot say "this book" without a reference to surroundings, which are not to be restrained from extending over the entirety of space and of time. In other words, the subject of every judgment, as we shall see later on, is just reality, and potentially the whole of it, and the work of the judgment is to make explicit what is implicit. The sea view is not less the entire Universe to me, because in reflection I qualify it as limited by an infinite Beyond.

The problem of Philosophy may be defined to be to find the highest categories under which to think individual actuality, and to get the most adequate and complete conception of it. So alone, by this method and by no other, does it seem as

though we could reach a view of God. At the plane of experience of our everyday lives we do not use the highest categories, because we are not in search of ultimate truth. Our necessities, our purposes, our standpoints, are provisional and finite only, and we have no need to go beyond them in the organisation of our view of experience.

The great fallacy in speculative inquiry of looking upon the mind as a thing arises from not keeping this in view. We find it in our everyday parlance very convenient to speak as though the mind could be regarded as a thing, as though human beings, with souls as well as bodies, could be talked of as things in space. This uncritical way of speaking is very convenient and perfectly legitimate for everyday purposes, but when you take what is an everyday useful tool and divert it to other purposes, use it as a speculative instrument, you get into all sorts of trouble.

Let me give you one illustration of this. The nature of the mind is to be free, active, with the power of withdrawing itself from its own associations. I instanced to you yesterday the martyr at the stake, who is capable of withdrawing his mind from what he endures, by virtue of a great conception which he has before him. The nature of the mind is to be capable of abstracting itself from any or all of the particulars in which it is manifesting itself; and, that being so, the freedom which the mind possesses

is the freedom of the universal which is in the particulars, which transforms the particulars, which gives them their meaning, gives them their existence, although it does not exist apart from them. And the mind, with an activity of this nature, is obviously wholly outside the category of cause and effect, which has only significance if we are talking of relationships within space and time. Consequently it becomes at once plain, when we think about it, that the old controversy about free will, the old speculation as to whether volition was an uncaused something, or whether, as philosophers used to maintain, the operations of the mind are only a series of causes and effects making up a single and unalterable chain, was really beside the point. We are dealing with mind, and controversy is needless, as soon as, in the light of criticism, we get rid of our dogmatic presupposition that the mind can be regarded as a thing, or as subject to the relationship of cause and effect. The nature of the mind is to be free. It has the power of acting rationally, or for that matter irrationally, but its choice is free, and it can abstract from any particular, and follow the individual form with which it is concerned. Therefore, a little bearing in mind of the lesson which Aristotle taught might have rid theology of a great many controversies which arose from dogmatic assumptions on which the theory of Determinism, the theory of the impossibility of free will, was

based; while I need not tell you that the deduction drawn from the notion of God as a First Cause, the outcome of which was to make freedom of will impossible to an individual, who is represented uncritically as a something distinct in the object world of Space and Time, is another fallacy equally apparent.

Thought and sense, the subject and the object, cannot be taken apart from one another; neither of them is what the Greeks called a "χωριστόν," a thing apart.

Well, the individual as we saw assumes forms in reflection, which vary according to the points of view and purposes which reflection brings to bear on it. If you allow thought to turn in upon itself and watch its own operations, you will see how this is. Take, for instance, the illustration of the stereoscope. What we see in the stereoscope is really only a flat surface in two dimensions of space, but it appears in three dimensions. We are, so far as mere observation goes, presented with an object in three dimensions. The reason of this is, that the instrument has made a powerful suggestion to us to bring to the organisation of the experience which we have to interpret the conceptions or categories which are determinative of space of three dimensions. It is difficult to overcome this suggestion even when we have learned to refer the illusion to its proper place in the context of experience. It is suggestion and the belief which

follows after it, and the conviction that the conceptions which we are employing are the right conceptions, and the true modes of organisation of the aspects of experience which are present to us, that give that form and fixity alike to the world of the stereoscope, and to that in which we say that we really live and move and have our being. If thought be allowed to play freely, we find these appearances resolving their own fixity, just as it easily dispels the conviction which makes us interpret the plain flat surface which we see in the stereoscope, as an object standing out in three dimensions.

The test of what is real, the test of what is actual, cannot be found in the mere appearance of immediacy. The picture in the stereoscope, or the delusion of the madman, also present the same aspect of immediacy. The criterion of reality cannot, moreover, be looked for, as has been suggested, in what has been called the *uniqueness* of the individual, or our sense of purpose satisfied in it, because, after all, the picture in the stereoscope is an individual picture in which our purpose of searching for reality rests satisfied that it has reached reality. What seems to be essential is — that the conception we have formed should fit in with the context of experience.

The truth is that the individual, the phenomenon of experience, gets its fixity and definiteness from the universals of reflection—derives from these what the Germans call its "*Dasein*"—

the being there and as it is of the individual thing. The being of that tumbler, for instance, standing there on the table, is definite and fixed for me, because I interpret its appearance through a system of everyday and very familiar conceptions. It is the system of these conceptions which gives me the table and the tumbler, and a vast variety of other things to which habit has made me assign meanings and uses so regularly, that I have ceased to be conscious of the processes of doing so. For a dog, or even an infant, that tumbler would not have the significance which it has for you and me, nor stand out with the reality which it does to our minds. The analogy of the stereoscope repeated on a huge scale is the key to the fixity which the outside world seems to present. I shall have to develop this further and make it more intelligible a little later on.

The individual in which thought can rest satisfied satisfies thought only for a moment, and when thought passes to another point of view, to another set of conceptions, it takes up another aspect of the individual and so transforms it, and gives it another meaning. I gave you as an illustration yesterday the man who cuts down a tree and makes a table. The wood is living wood in his hands, but when he makes it into a table he passes away from the living tree and thinks only of dead matter. He has come to the conception of the table as a purely

mechanical arrangement of parts, and of the wood as something dead and inert.

We cannot resolve the truth and reality possessed by individual being, by the "that," into the mere satisfaction that we have in it, the mere conviction of its reality, or the notion that our purpose of seeking Reality is complete in it. If so, the stereoscope would give us real things. But as I will presently show you, that is not the test of Reality. The resolution into something beyond, into the satisfaction of the purpose of my mind, as an explanation of the meaning of Reality and of the individual, would simply, if we relied upon it, prove, as it seems to me, a broken bridge, because we should then be confronted with the question, What does the "is" mean when it is applied to the mind, and the purpose of the mind which is so satisfied?

My distinguished predecessor in this Lectureship, Professor Royce of Harvard, has written a very able book upon Idealism, and he appears to suggest that the true meaning of being, of the actuality of the individual, is to be found in the satisfaction of purpose. But it seems to me that this is only to push the controversy a little further back, and to leave you to ask what he means by the being of a purpose. Can this be resolved into satisfaction of purpose in having such a purpose? I venture to doubt whether this analysis, if true, is helpful. It seems as though it left us with an endless regress, and no further on. I prefer to

say that you must start with the individual form. Satisfied purpose, fulfilled meaning, are rather features of individuality, than explanations of it. So, at least, it seems to me.

We must have a belief in the real world; that, of course, we must start with. We must believe in the appearance, whether it be in the stereoscope or in anything else, as real. But what is the test of its reality? Not the mere fact of our belief in it, but something else; its harmony with our own other experience, that is the main feature. I will show you what I mean. I go into a room, and I think I see a chair in it. The room is dark, with only the moonbeams playing in. If I trust only to my sense of sight, I may make a mistake in thinking I see a chair. I may try to sit down on it. If I do so, I shall speedily and effectively find out whether it is real or not. Other senses have corrected the impressions of the sense of sight. But it is not enough that my present impressions should agree in telling me that the chair is not real. A madman might believe he saw a chair, even if he had sat down and had painfully found there was no chair there. Even if another element came in he might still remain under his delusion. He might be deceived about his past impressions as easily as about those of his present experience. If I look round, and think that I see a chair before me, and then remember that a moment before the space was empty, I may conclude that my present impression is illusory. But the mad-

man may have quite a different impression. His whole experience, what he remembers as much as what is immediately present to him, may be distorted. Yet another element must come in before the test of reality can be satisfied. My personal conviction is not enough. My experience, if it is to be true, must harmonise with the experience of the other people in my world. All men must see and feel in such a fashion that the universals in which their descriptions are recorded are the same, if the impression is to be given the title of real. The context with which there is to be agreement must be that, not merely of my own experience, but of the experience of the rest of mankind. It is not enough that the entirety of my personal experience should be self-consistent. The madman may pronounce self-consistency of his own experience. There must be correspondence of what I believe with the beliefs of other men about what their senses tell them. The image of the chair must be there for the experiences of all other people; it must fit in not only with the general context of my individual experience as this particular A.B. existing at a particular time and on a particular spot; but it must consist with the experience of all other individuals, and fit in to the general context and harmony of the general experience. If it does so completely, then I come to the conclusion that it is a real chair. My will is then satisfied, has been convinced. In other

words, I assent. In fact, I have accepted the perception of the chair as part of the real world. But my belief in its reality is not enough unless the reality is in fact in harmony with the experience of myself and other persons alike. That is what Mill meant by the *system* of Permanent Possibilities which he said made the reality of the object world.

Such harmony with a system is a conception which we get only through reflection, only through judgments, which we fix and make definite and preserve in the mind, in universals such that we can remember them and speak about them and communicate them to others through language. They do not give you the actual "is" of these things. That is the unique experience of the mind that has it. What is communicated is a description of a system which you can put in language which deals with universals, and universals alone, and it is in the objectivity of that system, that is to say in the fact that it is the system of the similar experience of everybody, that you get the test of reality. You do not make reality; you do not make the world. You do not construct, or deduce, or put it together, but you have a test of the presence or absence of that which is meant when we speak of reality. It is very difficult to grasp this rather elusive point, but it is very important to keep hold of it, and we shall come back to it later in another form.

Our characters and our outlook on life change

as our purposes and our standpoints change with changing time and circumstances. With enough of variation of purpose and standpoint, our conceptions may so alter that experience itself may become organised quite differently. Insanity is the best illustration of this truth. We may, too, conceive a whole world of people whose experience has grown in forms different from that of human beings. I am quite unable to figure to myself what the world of experience of a lizard or a dog may be. I can to some extent by watching its motions guess what sort of mind a lizard or a dog has. But if there be such a being as an angel, how does an angel think? Again, those who live, if they do live, in Jupiter and Saturn, may construct quite a different world for themselves from any we know. Their senses may be wholly different from ours. They may have no perception through sight, for example. But it is plain that when you get to the universals of their experience, these must be the same, because we could not otherwise attach any meaning to their worlds or to themselves as inhabiting them. It is only on the basis of a common system of thought, of the validity of Reason as the basis and foundation of any possible kind of knowledge, that Scepticism can even raise its head.

Now the poets have sometimes very clearly set before themselves this fact, that the mind does not really discover in the world which lies

in front of it something hard-and-fast which does not vary. They have penetrated, by the power of genius, over and over again to the fact that the external world which confronts us is only apparently permanent and impenetrable, and may be transformed by thought. I think it is something of that kind which Shakespeare has in his mind when he makes Prospero in the *Tempest* tell Ferdinand that

> "Like the baseless fabric of this vision
> The cloud-capp'd towers, the gorgeous palaces,
> The solemn temples, the great globe itself,
> Yea, all which it inherit, shall dissolve,
> And, like this unsubstantial pageant faded,
> Leave not a rack behind. We are such stuff
> As dreams are made on and our little life
> Is rounded with a sleep."

Or again, when Browning talks of

> "Life for ever old yet new,
> Changed not in kind but in degree,
> The instant made eternity."

he is speaking of the power of the mind to transform the world — to turn it into a system which may have a reality quite different from that of the world of Mr Worldly Wiseman.

Again, when the author of the Book of Revelation tells us of Him who sat on a great white throne, from whose face the earth and the heavens fled away so that there was found no place for them, he seems to me to have had in

his mind the unreal and transitory and relative character of the universe of sense.

Perhaps one of the most striking and most remarkable breaks-away in our poetry from the standpoint of the hard-and-fast finality of every-day immediacy to another point of view, is to be found in that extraordinary poem, I think, too little recognised in its greatness, that was written —the day before she died — by a Yorkshire girl in a country parsonage. She lived among the moors, far away from learned society—that girl of whom Mr Swinburne somewhere tells us that she takes rank as the direct descendant of the Titans, as in the line of Shakespeare and of Milton. I will quote Emily Brontë's "Last Lines" to you entire :—

"No coward soul is mine,
No trembler in the world's storm-troubled sphere
I see Heaven's glories shine
And faith shines equal, arming me from fear.

"O God, within my breast
Almighty, ever present Deity!
Life that in me has rest
As I—undying Life—have power in Thee.

"Vain are the thousand creeds
That move men's hearts, unutterably vain;
Worthless as withered weeds,
Or idlest froth amid the boundless main.

"To waken doubt in one
Holding so fast by Thine infinity,
So surely anchored on
The steadfast rock of immortality

"With wide-embracing love,
Thy spirit animates eternal years,
Pervades, and broods above,
Changes, sustains, dissolves, creates, and rears.

"Though earth and man were gone,
And suns and universes ceased to be,
And Thou wert left alone,
Every existence would exist in Thee.

"There is not room for Death,
Nor atom that his might could render void,
Thou, Thou art Being and Breath,
And what Thou art may never be destroyed."

Matthew Arnold speaks of these lines as the too bold dying song of her

"Whose soul
Knew no fellow for might,
Passion, vehemence, grief,
Daring, since Byron died."

I do not think he exaggerated. Certainly speculative poetry has rarely reached a higher intellectual level than in this dying outburst. It contains the teaching of Aristotle transferred from the abstract to the concrete.

Now the poets have the power of suggesting, of making us feel what is real. It may be that what they tell us is the outcome of promptings from what Professor James calls the "subliminal self." That is probably true. But none the less is it equally true that these feelings fall within the world as it seems and belong to reality, and

the result of our investigation may be just to show that they are better pictures of things than the pictures that the commonplace man presents, in that they exhibit the individual with equal reality, but presented at a higher plane.

Well, we must return for a moment from this digression to our threefold test of what we mean by reality: Agreement furnished by (1) Our own present senses—of every kind; (2) Our past sense experience; and (3) The sense experience of others. That these afford only a relative test we have seen. But they throw light upon what we mean by reality and unreality in human knowledge, or, for that matter, in human perception. It means the assignment of the phenomenon to its proper place in the context of experience. If I am standing on a hillside looking across the valley at the hilltops opposite, behind which the sun is setting in a red glow, I may be tempted to believe that the hills are on fire. Now that is a wrong inference. Why? Because I know that if I go over there I shall not find them red at all, that the apparent redness arises from the falling of the sun's rays upon them. Everybody standing at my point of view would find them apparently on fire, but the phenomenon of appearing to be on fire would not agree with the general context of experience, with the place to which the rest of humanity assigned the phenomenon in its reflection. Accordingly, I come to the conclusion when I reflect on it, that what I did when I

thought the hills were on fire was, not to make a mistake about mere sense impression, but to assign the phenomenon to a wrong place in the context of experience.

In other words, it is wrongly construed experience that makes the difference as regards reality. When people agree about a thing, and so give ground for saying that a phenomenon has appeared in the same way in the common system of their varying perceptions, the accord or correspondence between these experiences is an accord or correspondence for reflection, and not for mere perception. I cannot experience your sensations any more than you can experience mine, but what we can do is to communicate to one another common judgments, identical judgments, which we have formed about these sensations. We can describe them in language, and if you search the language you find that it speaks only in universals. If I say that a thing is *here*, it is to you, looking at it from a distant point of view, *there*. Language is entirely taken up with universals, and conveys them, and describes a system of intellectual constructions which are not events in Space and Time, but are judgments under conceptions which give their meaning, and the only meaning they have, to what are called the individuals of experience.

In knowledge we rise by abstraction, by isolating these universals, and therefore knowledge as such is never reality, because the universal is nothing apart from the individual out of which it

has been taken by abstraction. On the other hand, the individual emptied of universals, the particular as such, is never real, because it *is* only as determined by the universals of knowledge in the individual, a transitory resting place which varies as the universals vary, that the individual has its reality.

Very often the correspondence that is of the essence of reality is correspondence between different points of view. Suppose one man eats a loaf and another watches him doing it, and recognises what he does as a real event. The experience is different in the case of the first man from what it is in the case of the second; but they recognise a common social system, which is the foundation of their common interpretation of what takes place. Therefore, what is real must not only be assented to, which is a matter of will, for belief is an act of will, but it must formally accord with the criterion afforded by a system of common conceptions, and that is what gives it its objectivity.

Well, when in abstract reflection we distinguish thought from its object, we get what we have called the subject, and we have now learned that the subject as distinguished from the object is not reality. It will be convenient to get a phrase to express the view of the ultimate reality of things which insists on the indissoluble union, so far as existence is concerned of subject and object, of universal and particular. We may call what we

come to as the basis of reality Mind, or we may call it Spirit (*Geist*). At any rate it is what is individual, and it holds in a union which is irresoluble, because it is presupposed as the basis of all analysis, the two moments of the universal and the particular which cannot exist outside of it. We cannot deduce it, or the universe which exists in it, in its unique individual form as a "This." You presuppose it in the subject of every judgment. Yet the permanent element is the universal which is isolated, it is true, in reflection only, and which gives us the system in which alone permanence is to be found.

All language is abstract, even the language of poetry. But poetry suggests—its art is to suggest to us — individuals which embody the universal in a highly concrete and sensuous form. Philosophy gives us more permanent light than poetry does. Philosophy moves in the region of abstract thought. But it pays for so doing by being cold and lifeless. Therefore, we want in our world, not only the cold mind of the philosopher, but the feeling of the artist, the moral sense of the good man, the self-surrender of the religious soul. Without these aspects of reality our world would be a very poor one.

We may now consider that we have provisionally defined our ultimate reality as Mind or Spirit. How then do we proceed to view the ordinary world as we have it before us? We

have already seen that its hard-and-fastness to a large extent arises from the conceptions which we bring to bear, and the purposes or ends under which we organise our knowledge. Take, as another example of this, what is called an explosion. Nobody can define what an explosion is. In the book of the great French chemist, Berthelot, there are attempts at a definition; but they come only to this, that an explosion is nothing more than a very rapid burning, and its consequences. But rapidity is a relative word. What appeared to a giant to be an instantaneous detonation, might seem to a gnat to take a very long time — to be almost a slow burning. Their *tempo* is different. So it is with space. From the point of view of the cell, the organism of the body, which is just made up of all the cells acting together, may look very much like what the starry heavens look to us — something very remote and of which we form a mere isolated unit. But it is conceivable—and the speculation has often been entertained—that there may be an organic and conscious life in which we are but as cells in a larger organism, to the intelligence of which we appear in a similar fashion to that in which we view the cells of our own body. In that way the appearance of the universe would be quite transformed by reflection. In other words, the standpoint, or the purpose, or the end for which we are organising knowledge,

and which determines the conception under which we attend and abstract, is what really gives its meaning and hard-and-fastness to the world which confronts us.

As another example, take the extreme transformation which thought makes in the case of sound. Suppose a man, A.B., comes into my room. A person who had never seen him before might think him uninteresting or even repulsive to look at. Another person, who knew that the disfigurement of his face was the result of an accident which he met with in saving his friend's life, and that his short-sighted look was the result of constant study, might think his face expressive of all that is best. He takes up a book and reads a few lines of German. The one man recognises the words as forming one of Goethe's lyrics. A person who did not know German would have one kind of impression, a person who did know it quite another. A.B.'s voice conveys to the one man a mere succession of unintelligible sounds. To the other man it suggests a vast wealth of images and reflections. He forgets the sounds — ceases to distinguish them, thinks only of the sense and the feelings which are awakened. "*Ueber allen Gipfeln ist Ruh.*" From the standpoint of the mere student of acoustics, these sounds form an experience for the listener complete in its individuality. His purpose rests satisfied and seeks nothing beyond. He has brought it under his

special conceptions, converted it by abstraction into universals, and is satisfied. But to the other man, who knows nothing, and cares little about acoustics, the bare sounds cease at once to be bare sounds. They are merged in the thoughts which they awaken. The result is two totally divergent experiences, arising from the fact that the two observers, in whom respectively these experiences have arisen, have different mental furnishings and different purposes. So far as each recognised a man, they had a common impression. But even this was only the outcome of common conception and standpoint. A wild animal might not have even recognised a man. A lizard might not have even recognised a living object. So deep down does the penetrating work of thought reach, and so much does the constitution of experience depend upon conception and purpose. It is the exclusiveness of the standpoint at which I am, and of my abstraction under its conceptions and for its purposes, that make the world seem hard-and-fast. In other words, the world as it seems is determined in its form rather by ends and purposes than by causes.

Now, the German book which awoke such a mighty response in the mind of the man who appreciated the meaning and form of the thoughts expressed in it, would to the dog be only so much paper and ink, and the dog would know no better even after he had chewed it. The reality is thus very different in the case of the

dog and in that of the person with an instructed and developed mind, although so far the basis may be a common one.

It is the necessities of social intercourse among individuals with like purposes to fulfil, purposes ethical and other, which have really made our common world; and in order to fashion, each for himself, the common ethical and general world in which we live, we have adopted certain common ends, and these common ends have developed our common language, our common standpoints, and determined us to abstract from all aspects of the world except those which fit in with these standpoints and purposes.

Suppose somebody asks what is the cause of the fire. The scientific man would say that the fire was caused by the uniting of the atoms of oxygen with the atoms of carbon, but the housemaid would say that the cause of the fire was the putting of the match to it, and from her point of view she would be right. Her business is to apply the match, and with the chemical side of the question she has nothing to do. Thus what is real and true in the world, however important, depends upon its harmony with the context of experience, and is always in a sense relative.

Thought, reflection, is free and self-determining, and can and does select its purposes and ends and the conceptions under which it will work. It is by following certain purposes and ends that the notion

of the hard-and-fastness of the world which confronts us becomes evolved. But, of course, this valuable faculty has its dangerous tendencies. We tend to hypostatise those abstract views which everyday life gives us, so that what are really abstractions become mistaken by us for real things. We can see how this constantly happens. It is enough for me to remind you of the way in which, in even the exact sciences, such abstractions as force and atoms have arisen; working hypotheses which the man of science has hypostatised into notions of real individuals, of which he talks as though they could conceivably be reached through the senses. They are really nothing of the kind, but, as we shall find later, only the outcome of abstraction under certain categories.

What it comes to is this—thought does not make things any more than things make thought. That kind of notion, with its implication of causality, belongs to the old theory of the mind as a thing which looks out from windows of sense at other things in the outside world. This window theory is inadequate from every point of view. It breaks down physiologically, because, if my optic nerve is destroyed, I do not see the outside world. A race of people born without optic nerves would have no sense of sight at all. The realities of things arise by objective construction. Psychologically the window theory is just as inapt, for the reasons

which Berkeley and Mill have given us at length.

Do not be misled by the difficulty which arises from the notion of separate minds, existing outside each other in space and time, on the footing of each one being among many like it. That, again, is only the result of the organisation of our experience under certain categories. I interpret myself as one among many, as one individual among a multitude of individuals in a world in which we all live. I cannot penetrate into your minds or experiences, but by a knowledge of my own I can form a conception of their nature. Professor Ward, in his admirable Gifford Lectures, discusses what a distinguished continental psychologist, Richard Avenarius, used to call "Introjection." It means that my picture of you comes from interpreting. I interpret you in a way which I get by considering myself. Now the notion of myself as the basis from which I do this is only a secondary and derivative notion in the system which is presupposed as the foundation upon which we build up our ideas of separate individuals, each standing to the rest as one among many.

I may observe that the critical philosophy of Kant, one of the greatest systems which the world has ever seen, breaks down just at this point. Kant had to account for experience. He said, "What I have to do is to ask, how is experience possible?" and his view of it was that the activity

of mind, not of mind conceived as an individual with a locality in space and time, because that for Kant was only a derivative conception, but the activity of mind, taken simply as the pure activity of thought constructing its object world, operated upon a certain raw material of sense which he refused to attempt to deduce. Kant never would try to deduce the particulars of sense. But he thought that the activity of intelligence, operating upon the particulars of sense, arranged them in two pure forms of Space and Time. And so the world of experience was constructed, and beyond the limits of the twelve categories which Kant took from the Logic of Aristotle and regarded as exhaustive, he did not allow the categories of experience to go, and he limited the real world to the world of experience so constructed.

Now there are many criticisms to be made on Kant's philosophy. We shall have to deal with the Aristotelian Logic at a later stage. The main criticism which I wish to make — and, indeed, the last word I have to say to you to-day — is that Kant was infected with the psychological point of view, the notion that you can break up experience, that you can treat the particulars of sense as if they could be converted into individuals of experience by the synthetic activity of pure intelligence working from outside them, and, as part of the process, welded together in the independently existing forms of Space and

Time. How far this point of view will carry you, the modern psychologist Münsterberg has shown in his admirable little volume *Psychology and Life.** There the author points out that Psychology, like all other sciences, has got its own categories and conceptions, and that, adopting these categories and conceptions for its own purposes, it views the individual abstractly, busying itself only with certain universal features which it selects by abstraction, and consequently gives rise to the notion that the mind consists of a series of separate feelings or impressions or sensations—in other words, that what is called atomism is the basis on which the mind is built up.

Even by looking into our own minds we can see that this is not true. In watching the development of a child's mind, we see that knowledge grows by the further development of an ἄπειρον by the gradual introduction of definite organisation into a vague continuum. The truth is that Kant, like many other people, illustrates the dangers of those metaphors which make the path of the philosopher at once so easy and so difficult. Experience is no onion, the coats of which can be peeled off one by one. Experience is not a thing to be laid on the dissecting table and taken to pieces. It is the ultimate reality behind which you cannot get if you once realise that it means and is just the individual as the presupposition of knowledge. That is a point of view in which

* Münsterberg, *Psychology and Life.*

Hegel had to correct Kant, in the same way as Aristotle had to correct Plato.

I think that we have now cleared our way so far, and that we may feel that we have got some firm ground on which to tread in making our ascent to a further, and, I am afraid, not less difficult stage of the pathway which we shall have to tread to-morrow.

LECTURE IV

At the commencement of these lectures I told you that my task would be to develop a single thought, and that no novel one. I have in each lecture reiterated the doctrine that the real is the individual, and that it is a fallacy to think that we can divorce the universal from the particular, or find either of them elsewhere than in the concrete experience in which we men and women live and move and have our being. Those of you who are theologians may be thinking of the old Scottish preachers who made a point of expounding in each discourse the scheme of salvation in its completeness. They had a reason for this, and, like them, I have a reason for my reiteration.

My reason is that the acceptance of the doctrine which I have just stated, purified from the language of false metaphors and bad metaphysics, is nothing short of our πού στῶ, and is the basis on which alone we can build up an intelligible view of the Cosmos, and our place in it. Yet we have found that the individual of perception, the real, as we insist that it is, behaves in a way that is unsatis-

factory when we try to keep it in the rigid bonds in which for everyday purposes we seek to bind it. Under reflection it discloses itself as full of contradictions, as self-developing, in as much as the thought which seems to fix it is really self-developing thought of which the conceptions are constantly altering.

When by abstraction we try to hypostatise the individuals of experience into a final and fixed shape, these forms always turn out to be mendacious, to disclose inherent contradictions. Yet they point to fuller and more adequate views of themselves which lie beyond. There was an English judge who was fond of saying that the truth lurks even in an affidavit and will come out, and we may say of the individuals of sense that even in them there unfolds itself a higher view of things. The truth shines through them, as, indeed, the poets have shown us in illustrations such as those which I quoted to you in my last lecture.

Well, at the close of my second lecture I said that I should endeavour to clear the way a little more—to get rid of the weeds which might impede the strokes of the swimmer progressing from the shallow water from which we started to the deeper water in which we must swim if we are to make progress. We have cleared away in the course of these lectures several masses of weeds. We have got rid of the "window" theory of the mind; the metaphor of making or constructing things by thought; the atomism of the old Psycho-

logy; the notion, which misled even Kant, that experience could be divided into elements, and the mind into faculties. All these we have more or less got rid of, and we find ourselves in agreement, not only with great teachers of speculative science like Aristotle, but in this matter with the great critics of life, the great poets and the great artists also.

Goethe, for example, is never tired of telling us that we cannot break up experience, that we must take life as a whole; that even in Science we fail utterly when we forget that we cannot break up the living thing into a mechanism. When the student in *Faust* goes to interview Faust, and finds Mephistopheles dressed up in his gown, Mephistopheles gives him some very wise counsel. Among the wise things which Mephistopheles says to the student is this:

> "Wer will was Lebendig's erkennen und beschreiben,
> Sucht erst den Geist herauszutreiben,
> Dann hat er die Theile in seiner Hand,
> Fehlt leider! nur das Geistige Band.
> *Encheiresin naturæ* nennt's die Chemie,
> Spottet ihrer selbst, und weiss nicht wie." *

But the name of Goethe and the thought of the scheme of *Faust* suggest to my mind the yet

* "The man who seeks a living thing to know
First seeks to drive the soul out—so,
Then the parts he can hold in his hand and class,
But the soul and the spirit are gone, alas!
Encheiresin naturæ this Chemistry names,
Nor knows how herself she thus mocks at and blames."

wider way in which Goethe put this great truth. Indeed, it underlies and forms the scheme and basis of the whole drama of *Faust*. Let me try to describe it in a few sentences. Faust, as you all remember, is a man who has spent his life in the acquisition of abstract knowledge. He grows old. He is dissatisfied with the want of the richness of life in the universals, the abstract universals, among which he moves. He summons up first of all the Earth Spirit, but he finds between it and himself no affinity. He has cut himself off too completely from the fulness and immediacy of nature. The Earth Spirit tells him that he, Faust, resembles the spirit that he comprehends, and not him, the Earth Spirit. Then Faust goes farther; he is willing to make a bargain with the Powers of Darkness by which he is to get back youth in its freshness and richness, to quaff the full goblet of the senses, and so to make up, as it seems to him, at any rate at the moment, for what he has lost. But then comes in the subtlety, as it has always seemed to me, of the whole poem. Faust's mind is a completely furnished mind; he has lofty categories and perceptions; he knows what truth is; his is the highest point of view. His only mistake has been that he has divorced the world of knowledge too much from the concrete riches of immediacy, and so has won it in an abstract and unsatisfying shape. Well, he makes his bargain with the Power of Darkness, and in the

first part of the play you find the preliminary working out of the tragedy. The bargain is that when Faust shall say to the passing moment, "Stay, thou art fair," he shall then pass into the hands of Mephistopheles. But although in the first part Mephistopheles puts within the reach of Faust, not only the youth which he bargained for, but every kind of delight of the senses, every kind of extravagance of youthful life, Faust remains unsatisfied. The large conceptions of his mind find in the riches of the sense world which are offered to him something divorced from thought, divorced from his own large ends and purposes, and so what is profoundly unsatisfactory. His great mind cannot *find itself*, to use a German expression, in the world which is now opened up to him, and accordingly the first part ends in disaster and misery.

Then comes that second part, which Goethe wrote after the meditation of a quarter of a century. We are introduced to the spectacle of Faust, now a middle-aged man, after the wild career of his youth, lying on a flowery bank, sprinkled by the spirits with the waters of Lethe, in order that he may forget the disappointments of the past. He awakes, goes out into the world of men, just as a middle-aged man in the full strength of his powers would do. He thrusts himself into the life of courts, of state-craft. He endeavours, not from any high or lofty purpose, but merely to give himself the sense of power

satisfied, to control the affairs of his fellow creatures; he succeeds, and yet he is not satisfied. He seeks to bring back by magic power the spectacle of Greek art and of Greek beauty in its noblest form. He gains experience. Still he is not satisfied. For he is desiring these things, not in the light of any large and lofty purpose, but for the mere satisfaction of his individual wishes. Thus his mind still remains divorced from the true object world in which alone it can find reality, find itself again. His universal is not combined with the particular in an individual whole in which it can rest.

The situation remains abstract. But time passes, and there comes a moment when Faust, full of years, but also rich and powerful, sees some poor people on a property of his own, trying to keep out the sea which is breaking through, and destroying their little village. He directs that they should be assisted. He watches them struggling day after day, and struggling at last through his aid successfully, to keep out the waters which have been ruining their land. A new sense, new altogether, is awakened in him. He feels now not only that he is using his power for an unselfish end; he realises that he has found objectivity—he has found a world in which his mind is face to face with what it recognises as real and akin to its own ends and purposes. He feels, too, that here is the real

learning of which he has been in search. And then he says, looking up:—

> "Ja! diesem Sinne bin ich ganz ergeben,
> Das ist der Weisheit letzter Schluss:
> Nur der verdient sich Freiheit wie das Leben,
> Der täglich sie erobern muss." *

Or, translating these things into the thought that underlies the whole, he only can gain life and freedom who looks upon them, not merely as goods to be desired from outside, and as independent in their nature of his own energies, but as that highest experience which comes to Will and Intelligence only through constant striving to realise themselves at their highest level.

Faust now sees that the former alternative is an untrue view, and that it is only when the mind daily works out for itself, daily earns for itself again its life and freedom through its own exertions, that it can really gain and keep them.

And so it is that in *Faust* you have at the end just what we learn in the Prologue. The Deity in the Prologue, after allowing Mephistopheles to have his will and telling him that, while he may go forth and tempt Faust, he will in the end fail, because Faust is of the higher order

* "Yes, to this thought I hold with firm persistence,
The last result of wisdom stamps it true,
He only earns his freedom and existence,
Who daily conquers them anew!"

of the sons of men, speaks these significant words :—

> "Doch ihr, die echten Götter-söhne,
> Erfreut euch der lebendig reichen Schöne!
> Das Werdende, das ewig wirkt und lebt,
> Umfass' euch mit der Liebe holden Schranken,
> Und was in schwankender Erscheinung schwebt,
> Befestiget mit dauernden Gedanken." *

This is the last injunction of Philosophy, the lesson that Faust is to learn. So the great tragedy of *Faust* is worked out. So it is that Faust's mind at its highest, having found itself again in this the highest conviction, that it must work out its own life and freedom in the larger sphere of action on behalf of others—passes into the Eternal. So it is that when Faust says to the Moment, "Stay, thou art fair," and at that same instant dies, his soul is saved, the bargain notwithstanding; and the Devil, whose categories of comprehension are of a limited order and cannot take in the true meaning of what has happened, finds that his prey has escaped him.

Well, one sees in these illustrations from the poets how if you take the greatest minds in literature, the greatest critics of life, that same thought which underlies Philosophy is constantly repro-

* "But ye the only real Sons of God
Enjoy the rich, the ever living Beauty,
The self-creative changing forms that work and live,
Hold these in bonds of love that never weaken
The self-dissolving shapes that ever move before you
Fix and make firm through thought that stands for ever."

ducing itself. The highest is not to be looked for in some world beyond. It lies in the Here and Now, in just this world comprehended at a loftier plane. We have not to try to deduce the Universe around us. What we have to do is to clear away from our minds the rubbish of hypostatised abstractions, which hinder us from apprehending the nature of reality under adequate conceptions and categories.

Now the Greeks were probably less hampered than we are in thinking after this fashion, because their minds were free from some at least of the abstractions that trouble us. For example, take the great distinction which runs through modern Philosophy, and which I started with in the first lecture, the distinction between subject and object. Scarcely a trace of it is to be found in definite form anywhere in Greek Philosophy. Aristotle, who was systematic if anybody was, makes it clear that in the individual nature of actuality he does not recognise a divorce between what we should call subject and object, nor yet a divorce between the universal and the particular. He is perfectly aware that there is an aspect in which the mind appears as the mind of a particular person, and in which nature confronts the mind in that form as something foreign. He knows that Philosophy has to take account of the fact that the world itself belongs to the field of nature, and that in the object world the mind finds itself as a thing in time and space with a

history and a body. For mind in this aspect the particulars of sense come first. Yet these particulars, and the individual intelligence, and the system which is the outcome of thinking of it at this standpoint, presuppose a deeper view of mind in which the categories of the particular self are transcended.

In the Third Book of the *De Animâ*, in the fifth chapter, Aristotle, after dwelling on the double character of Νοῦς or Reason, which, he says, can perceive and so *become* all things, and also *create* all things, goes on :—

"This phase of reason is separate from and uncompounded with material conditions, and, being in its essential character fully and actually realised, it is not subject to impressions from without: for the creative is in every case more honourable than the passive, just as the originating principle is superior to the matter which it forms. And thus, though knowledge as an actually realised condition is identical with its object, this knowledge as a potential capacity is in time prior in the individual, though in universal existence it is not even in time thus prior to actual thought. Further, this creative reason does not at one time think, at another time not think [it thinks eternally], and, when separated from the body, it remains nothing but what it essentially is: and thus it is alone immortal and eternal. Of this unceasing work of thought, however, we retain no memory, because this reason is

unaffected by its objects; whereas the receptive passive intellect (which is affected) is perishable, and can really think nothing without the support of the creative intellect."*

In other words, putting aside metaphors, which Aristotle uses and understands, he is drawing the distinction between intelligence as taken at two planes, the passive reason, intelligence viewed abstractly and at a standpoint from which it exhibits itself as within nature; and, on the other hand, the active reason or intelligence conceived as the mind or spirit within which the universal and particular fall, combined in the individual within which they are inseparable except by abstraction.

Now, another remarkable thing about Aristotle is the way in which he realises that when we get to the standpoint of the active reason, of mind or spirit, as we should call it in modern parlance, we have got away from the embarrassing conception of the relationship of the one and the many. It has always been a great difficulty to those who looked at these things uncritically to understand how, if idealism is true, the mind can be one thing among many. Aristotle sees perfectly plainly that the mind can be regarded as one thing among many only when it is looked at from the point of view of a stage of thought which is not that of speculative knowledge.

* Wallace's Translation, p. 161.

Now, we have always to bear in mind the difference between these two planes of thought or ways of looking at the individual. The standpoint of A.B. as a person in this world, with a name and a history and relationships, is one that we cannot possibly get away from. The very basis of my being here and speaking to you, and myself thinking and reflecting, is that I am just this particular individual with a particular mental and physical history, surroundings, and relationships. It is on that very basis that I proceed. But then, it is just because we have learned that mind, in so far as it is the ultimate reality, is not a thing distinct from mind looked at from the point of view of individual experience, but a fuller thinking out of what already is potentially there in the individuals of first experience, that the gulf which has so embarrassed people who approach the consideration of Philosophy is bridged over. We find in everyday life that the individual of experience is not taken as final. We do not either in theory or in practice limit our consideration by the assumption that the individual so taken is an end in himself. The soldier on the battle-field who goes to death without a doubt for his country, transcends the individual standpoint. The martyr at the stake does so likewise. And in the field of Science the mathematician who goes beyond immediacy, and reasons about the relations of space in the region of remote worlds, has also transcended

the immediacy of the senses, and has carried the power of reflection, through abstract methods, to a point which has enabled it to break through the limits of his powers of direct perception. Then again, the mathematician gives us other illustrations of the extraordinary power of thought to transcend itself. He can use the symbols in mathematics of impossible quantities —quantities of which he cannot predicate existence, but which are yet symbolical of relationships which, in mathematics, are not only realised, but made practical use of.

The poet, again, who makes us realise the overwhelming presence of what eye hath not seen nor ear heard, teaches us, in Matthew Arnold's phrase, "to see life steadily, and to see it whole."

In our everyday life we, at every moment, transcend the point of view of mere individuality. However much the plain man may find that the standpoint of individuality is a necessary and useful one, it is a standpoint which is necessary and useful only within the limits of the purposes for which it is made available. Without it we could not get on. Unless I, by an abstraction, which, for the purposes of social intercourse, is essential, looked upon myself as a thing with a particular mind and history attached to it, as a being standing in social relationships, it would be impossible for me to conduct any conversation with you or to live in a common social

world. It is only on the basis of the relationship of the one and the many, it is on the basis of assuming this relationship as our working hypothesis, that we can make any progress at all, and the assumption is, I need not say, a legitimate one. Of course, even on that footing, the assumption is only valuable and legitimate when used for everyday purposes, and it is certainly an assumption which will not stand when we come to the purposes of speculative thought.

For social purposes we must regard men, women, and children as beings with histories and names, and look upon them as things with minds in them which peer through the windows of the senses and possess faculties. It is necessary for everyday life. It is a common way of looking at things which we have evolved and use in social life.

But in social life we have got complex points of view. Even the everyday person, in his everyday conduct, is constantly coming upon a standpoint which transcends these purposes. The moral law, religion and the church, the state and the duties of the citizen, these all carry you beyond the individual, and they carry you beyond the individual in the very midst of an experience which we treat as single and do not break up, because it is our everyday life, in which we have no need to distinguish the purposes and standpoints which combine in focussing it. All these

standpoints and purposes seem to combine and lie side by side in producing the complex whole of what we call social life.

I showed you that the relation of cause and effect would not bear looking at in the case of the housemaid putting a match to the fire. I pointed out to you that what she did was not in any intelligible sense a cause, that the potential energy in the wood was just as much the cause of the fire as the putting of the match to it. But it was for the social purpose of responsibility to those who had the direction of the affairs of the house, that the housemaid, in explaining the cause of the fire, selected this conception—over which she had control. Well, cause and effect is just an illustration of that rough-and-ready kind of conception which we use in everyday life and which we hypostatise. We talk of a "cause" as though it were some event which we could separate off from other events and consider by itself; whereas, when we look scientifically at the burning of the fire we find that the cause is only the totality of the conditions, and that the effect is nothing else but these taken as a whole. But we hypostatise the one feature which we have selected and called the cause. We tend in consequence to apply this category where it has no application at all —to apply it to the nature of ultimate reality, to apply it to the nature of God, to apply it in the symbols and forms which the poets and artists in their own way use. Only the poets

and artists see, shining through these images, that higher aspect of the truth which discloses the contradictory and transient nature of all these hypostatised individuals which, by abstract conceptions, we figure to ourselves.

It is, of course—as I have often said in the course of these lectures—our social purposes which develop this way of looking at things. The desire to communicate with those around it develops the child's intellect more than anything or anybody else. Language enables us to think and compare our conceptions, and yet if there is anything which has become plain it is that language conveys, not the experience of the individual, because that is unique and incommunicable, but universals, conceptions which enable other people to view their individual experience from just the same plane or standpoint as our own. There is not a single word in language which does not import a universal. We talk in universals, and it is our social necessities which have caused us to develop our faculty of communicating in this fashion to an extent of which we are wholly unconscious.

What we have to do, starting on the basis of the view of the self as an individual being in the world, is to disentangle the highest plane of comprehension which is implicit in that individuality, and which emerges when we let thought play upon itself. Of course Philosophy, when it does this systematically, is abstract. Philosophy is always abstract, but art and religion, which operate sym-

bolically, help to a closer grasp, and they have their justification from Philosophy even though it must at times criticise them. But apart from the test of Philosophy, which never can give you the full richness which you have in art or religion, but which can give you a test of their truth, they are, as Professor James has pointed out, no safe guides to truth.

Well, we have got to deal with the individual self in this light, that it is a conception which is never wholly thought out, and in which we cannot really rest. People talk as if they knew what they meant by their individual selves, but if they analyse there is nothing more difficult than to say what they mean when they use the phrase. The world thinks of A.B.'s particular appearance, name, family, body, clothes even, and so on. But he may change his name, may ignore his relationships, may go to a country where he is not known, and still remain himself. He is identified for new reasons, and a self with different particulars is attributed to him. Now what is his real self? Not his body, because his hand, for instance, he can cut off, and still remain himself. Not his memory even, because although his memory fails him, he will still be recognised as a self. Certainly not his history and relationships, because if these were unknown or had been forgotten, he would still be credited with his selfhood. It is very difficult really to come to any other conclusion than that the word "self" is like the word

"cause," one of these outcomes of half thought out standpoints which are useful in everyday life, but which will not bear the dry light of Science.

The self may be taken to mean the corporeal feeling—the feeling of the body that one has as something distinct from outside things *in* which one does not feel, but which can make the body feel. But even that is a vanishing conception if we understand the process of Metabolism. The body is always changing its substance, and taking in new material. The truth is, that you can extrude, one by one, the particulars which you try to hypostatise as the elements in the self. You find that they are merely made part of the Ego, and that the notion of the self as comprising them, although a necessary and valuable working hypothesis, is a notion that will not stand the test of reflection even at the level at which we mean by the self an individual in space and time, one among others. If, on the other hand, I try to confine the identification of the self to what belongs to pure thought, I find that I am in a difficulty of another kind, because if I abstract from all my internal experience, if I distinguish my emotions, feelings, experiences, from the subject *for* which they are, I get back to the pure abstraction of mere thinking, and that again is so unreal that, divorced from its particulars, divorced from its manifestation in an object world, I cannot even name it, so completely have I eliminated all reality from it.

The truth is, that in order to get the real meaning of self, you must go to a more complete view of mind than the one with which we have just been dealing. We have been chasing a *supposed* individual which we cannot find just because it is an abstraction, and have been trying to identify it with reality. Its notion discloses itself as full of contradictions, as a notion which has only emerged because people are forced to go beyond the old "window" theory of the mind as a thing with faculties. Hume was perfectly right in declaring that he could catch no separate idea of the self when he looked into his mind. If your method is to look into the mind, regarded as a stream of psychical occurrences, you will find no presentation of a substance which manifests itself in them. It is only when you realise that there is another aspect of mind that you cease to trouble yourself. Knowledge, final reality, is Mind; for the final reality is always in an individual form. Your self, your personality, is a phase of final reality which it is a fallacy to seek to find as existing independently of that in which it manifests itself. It is that on which the entirety of experience is dependent. Your self is not the final and ultimate fact, the individual which only discloses itself as free from contradictions, when you have brought to the understanding of it the highest categories. Your self spoken of in everyday parlance is only that same

ultimate reality viewed from the lower standpoint at which it is presented as one among many. You are on a wild-goose chase when you try to identify it with any particulars of experience, divorced from the movement of thought in which they are set, and in which they have their being. It is the abstractness of your point of view that has given rise to the difficulty.

Now, it is easy to state these things, and it is extremely difficult to get a concrete conception of them before the mind. We are in a region where we have passed beyond the conceptions of everyday life; but it is well for anybody who is discouraged by such a reflection to remember that we have exactly the same sort of difficulties in the Sciences. In pure mathematics, for instance, and particularly in the calculus, there is the same turning upside down of our everyday conceptions. But the view which I have put before you is the view not of one system only, but of every concrete system of Idealism.

In his *Logic*, Hegel gives a description which I should like to quote, as putting, in other words, just what I have been trying to state to you. He says:—

* "If thought never gets further than the universality of the Ideas, as was perforce the case in the first philosophies (when the Eleatics

* Hegel's *Encyclopädie*, par. 12. *The Logic of Hegel*; Wallace's Translation, Second Edition, p. 21.

never got beyond Being, or Heraclitus beyond Becoming), it is justly open to the charge of formalism. Even in a more advanced phase of Philosophy we may often find a doctrine which has mastered merely certain abstract propositions or formulæ, such as 'In the absolute all is one'" — (elsewhere he likens Schelling's Absolute to the night in which all cows look black) — "'Subject and object are identical,'—and only repeating the same thing when it comes to particulars. Bearing in mind this first period of thought, the period of mere generality, we may safely say that experience is the real author of *growth* and *advance* in Philosophy. For, firstly, the empirical sciences do not stop short at the mere observation of the individual features of a phenomenon. By the aid of thought they are able to meet Philosophy with materials prepared for it, in the shape of general uniformities, *i.e.*, laws and classifications of phenomena. When this is done, the particular facts which they contain are ready to be received into Philosophy. This, secondly, implies a certain compulsion on thought itself to proceed to these concrete specific truths. The reception into Philosophy of these scientific materials, now that thought has removed their immediacy and made them cease to be mere data, forms at the same time a development of thought out of itself. Philosophy then owes its development to the empirical sciences. In return it gives their contents, what is so vital to them,

the freedom of thought." . . . "The fact as experienced thus becomes an illustration and a copy of the original and completely self-supporting activity of thought."

In other words, he says, that the work of thinking is to transform the individual of experience by setting it in new lights at the standpoint to which thought has now attained. One might multiply illustrations of this. What he says is as true of the Sciences as of Philosophy. The illustration which I gave you of the fire shows how thought carries you beyond mere immediacy to the conceptions which give to mere immediacy its meaning, and it shows the play of thought with the individual. We always start from a "that." The judgment of knowledge is always about a "that." My recognition as such of that glass of water standing on the table is a judgment which starts from a "that"—a "that" which is indefinite, which I qualify and make definite by the conceptions which I bring to bear on it. The "that" is always relative and transient. With new standpoints, with further insight, the "that," the glass of water, gets a new meaning for me. It may be that I am thinking of it now with the knowledge of certain chemical combinations. The process of developing the content is always going on. Water may mean the same to you and me so long as we look at it from the same point of view, but water means a very different thing from the point of view of the chemist from what it does from the

point of view of the man who merely drinks it. For the chemist the "that" has had a further "what" incorporated in it, and is enriched. If we say that the *Esse* of the subject in judgment is *Intelligi*, that is true in a sense, provided that we are careful that we understand and eliminate the metaphor, which represents the subject as separable from the entirety of reality, and the predicate as separable from it otherwise than by abstraction. It is a very useful phrase for making plain the dependence of the "that" of individual actuality on the universals of thought, and the nothingness of mere feeling. But we cannot, as I have often said, separate thought from things except by abstraction.

The picture of a pure self-consciousness regarding things from the highest standpoint, finding itself in its objects and no longer troubled by any distinction between the object world and itself, because it has got rid of all the abstractions of lower standpoints, such a picture we cannot present to ourselves, because we are compelled to view the universe from the standpoint of the particular individual. But by reflection we may get towards the grasp of the concrete truth that this is the final conception of the self, the real foundation and meaning of experience, and that it is really actualised in experience.

Well, from this standpoint we eliminate the notion of nature as being related to intelligence as an effect to a cause, and we cease to attempt

any deduction of nature. This is expressed in a passage in Hegel where he speaks of* "the one living Mind whose nature is to think, to bring to self-consciousness what it is, and, with its being thus set as object before it, to be at the same time raised above it, and so to reach a higher stage of its own being." The "that" of mind so regarded confronts us in self-consciousness as the ultimate fact, the finally real, and the business of Philosophy seems to be just to allow reflection, freed from wrong categories and metaphors, to allow the movement of mind to disentangle its own nature, and to bring it to self-consciousness. As Goethe said :—

> "Natur hat weder Kern noch Schale,
> Alles ist sie mit einem Male."

"Nature has no kernel as apart from husk." All aspects cohere in it and are inseparable. We cannot break them up, and the test of whether we have successfully disentangled the movement of thought, comprehended and grasped its concrete nature, seems to be this :—Can we show that the world seen from the higher standpoint is disclosed as reality, as compared with the world seen from the lower standpoint which by contrast is appearance only ?

In the realm of feeling we know that the great artist does this, and that the good man does it,

* Hegel's *Encyclopädie*, par. 13. *The Logic of Hegel;* Wallace's Translation, Second Edition, p. 22.

and he also who is in the deepest sense religious. They may give us no detailed picture of what they see. But their ideal worlds shine through immediacy, and disclose themselves to the eye of faith as its truth. The task of Philosophy is to make the ideal actual for the eye of knowledge.

There is only a single actual universe, the universe which, in one abstract aspect is thought, in another, nature, in its concrete, individual, living actuality, mind. This same actuality presents to us its different aspects according to the plane of intelligence at which we approach it. With the categories we employ its degrees of appearance vary and arrange themselves. These degrees of appearance, degrees not of substance but of comprehension, give us the differing and changing aspects of the world as it seems, and, it may be, the justification for our faith in their several titles to places in reality.

LECTURE V

We may now pause for a moment to look back on the road which we have trodden. If it be true that the divorce between the mind and the object world of experience has disclosed itself as provisional only, and in fact and in truth no longer exists for us, then we have reached ground from which a new view of what lies ahead of us must begin to unfold itself. The end, the final form of reality, can no longer be sought for as mere mechanism, or as the last link in a chain of temporal evolution. That end, that form, must have been implied and present at the very beginning, and hidden from us only by a veil woven out of abstractions. If our purposes determine the aspect for us of the world as it seems, then moral ideals have played a large part in shaping and fashioning that world. If the cause presupposes for its own existence the effect, if in the law of nature mind is only rediscovering and dragging into the light its own activity, then what we take to come last must really be first. If the truth of the universe be my individual experience thought out to the point

at which my finite individuality becomes disclosed as the outcome of a distinction which mind itself has brought about, there is no longer any reason why I should hold my world to be cut off from God as from Another.

The objective world, and the system of universals which give to it reality, disclose themselves as but the workings of a mind which is not another than mine, but the mind in which all reality, myself included, has its place. The development of my own knowledge is but the struggle towards a plane of comprehension, which, just because it is the presupposition and basis of finite experience, compels my reason to accept it as the truth, as what intelligence, at the standpoint of the individual, did not make and cannot alter. "From the goblet of our spiritual kingdom our infinity foams back to us," and we learn that the world can only be fully comprehended when it is viewed *sub specie aeternitatis*. We are compelled to throw off the abstract "either, or" of the finite understanding, and cease to take it as a garb in which full knowledge can disclose itself. Reality has its degrees of appearance, and to one among these degrees belongs the human mind and the object world with which it is bound up, in the indissoluble unity of what is individual.

Within that object world the self appears, appears as human, as, if you please, the outcome of a process of evolution through boundless time and in unending space, but yet *for* thought, *for*

itself. Think out the content of this individual experience, and its sharp lines give place to yet other distinctions, which drive us from causes to laws; from laws to ends; from nature to spirit, the last in reflection, the first in the system of reality, presupposed by and determining the course of reflection. What was always implicit is thus made explicit. The "this" is qualified by the incorporation in it of a further "what," and so, while still the "this," has become richer. The judgment in which the universe is sustained now discloses itself as the very presupposition of time and space, and as in nowise presupposing them.

In the last three Lectures I have tried to bring out certain truths, and these truths I may now summarise in propositions. The first of these propositions is that intelligence is free and self-determining. Now, I do not need to elaborate the meaning of the word freedom, because I dealt with it in a former Lecture. I need only remind you that negatively its definition implies that the relation of cause and effect is totally inapplicable to the relation of motive and volition, and that, therefore, the problem of free will, which has given occasion for so much discussion and so much troubling of spirit, is founded upon a false metaphor, and disappears. The mind is free to choose its course of action. It acts rationally, with the power to abstract from any phase of its content, and in that sense it is completely free from the chain of necessity which is expressed by

the word "causation." The dilemma about free-will is just one of those applications of what Hegel was fond of calling, in the words just quoted, the "either, or" of the abstract understanding; the understanding which says that things must come either within species "A" or within species "not A," and so creates a dilemma which turns out to have no application, as soon as you see that the genus is too narrow for the subject matter which you are trying to bring under it.

In the second place, we may take as a leading proposition of these lectures that the foreignness and hard-and-fastness of our everyday experience of the world that confronts us, is the outcome of a system of social and other purposes with reference to which we have been forced to organise our knowledge in order to fulfil them. The abstractions made for these purposes, have given rise to what I have called "superstitions of common sense," superstitions which arise when you try to apply what you have got in this fashion to speculative problems, which lie outside the scope of everyday reflection. Individual experience, the knowledge that I have of the world as it stretches out before me, is always relative; that is to say, however definite it may seem, it turns out to owe its definiteness to my adherence to a standpoint, with the result that when that standpoint changes, the form of this individual experience changes with it. The only element in

knowledge which is permanent and abiding and never alters, is the system of the conceptions and categories of thought, which must be the same for all individual minds. Otherwise, we could raise no question of any kind, not even the question of the sceptic, which, like every other, assumes that reason is able to raise doubts which, for the very statement of their validity, depend on her own capacity for truth.

Then, as a third proposition, I may take this, that ends and not causes make the world seem as it does. That is a corollary of the last proposition, and I need not further explain it.

Passing to the fourth proposition, this, I think, may be taken to be that we ought to be prepared to believe in the different aspects of the world as it seems—life, for example, as much as mechanism; morality as much as life; religion as much as morality—for these belong to different aspects of the world as it seems, aspects which emerge at different standpoints, and are the results of different purposes and different categories in the organisation of knowledge. And if Philosophy gives us back what Science threatens to take away, and restores to plain people their faith in the reality of each of these phases of the world as it seems, then Philosophy will have gone a long way to justify her existence.

Finally, and as a fifth proposition, we may say that it is a fallacy to imagine that there can be any question of trying to deduce nature. All experi-

ence is individual in its form, as I have already endeavoured to show you. We start from the individual. It is the "that" with regard to which every judgment is made, and it is the foundation and presupposition of self-consciousness — the ultimate form of experience from which we cannot get away, and which closes for us the circle. The work of thought is merely to examine, develop, and further define, what is implicit in that experience. The notion of deducing the universe, of showing it as construction of thought, is really a remnant of that old notion, which, I trust, I have succeeded in expelling, the "window" theory of the mind as a thing with faculties of different kinds through which it reaches out to a world independent of it. What is called the finite self, a thing with a proper name, manifesting itself in a body, one day to be carried off in a coffin, exists only within the system of experience, and the notion of it is a secondary and derivative one.

Well, it remains open to Philosophy, taking individuality as in this sense ultimate, and only by abstraction resoluble into the moments of the particular and the universal, to exhibit the work of abstract reflection in forming the "that" at each particular stage in reality. Now, as the "that" is always relative, and as its aspect varies with the standpoint from which we approach it, we may thus show the pulsation—if I may use a metaphor—of thought in the shaping of

individuality. We may even try to disentangle and arrange the abstract conceptions which go to this shaping to the extent of throwing them into a system, as Hegel sought to do. But Hegel never tried to deduce the "that"—although he has been misinterpreted as doing so, and abused in consequence. The very foundation of his Philosophy was that you could not deduce the "that," and, agreeing with Aristotle in this conclusion, what he endeavoured to do was to unfold the "what," the characterisation of the "that" with which he had to start.

Now, there have been many critics who have attributed to Hegel doctrines which he never put forward, just as others have attributed to Aristotle things which he never said. Even distinguished men like Trendelenburg seem to treat the Hegelian system as though it should be looked at as being an attempt to resolve experience into universals, and nothing else. But there is a much more sympathetic and understanding critic of Hegel, one whom you all know here, Professor Pringle Pattison. Professor Pringle Pattison, in his last work, *Man's Place in the Cosmos*, has given a view of the Hegelian Philosophy, which is, to my mind, such an admirable piece of work, that really I have little comment to make upon it, except that I would like to have more from the same pen. In an earlier book, however, *Hegelianism and Personality*, he has made some criticisms with which I feel myself not wholly

able to agree; because I do not think he has done the Hegelian system full justice. There are, even in his last book, some points on which Professor Pringle Pattison seems to separate himself from the Hegelian conclusion, but they are so minute compared with those which he raises in the earlier book, that I will only allude to them very shortly.

For instance, Professor Pringle Pattison takes this ground. Hegel, he says, rightly declared that it was impossible to go beyond the individuals of experience; with that experience you must start, and can only re-think experience and recognise in it degrees of reality. But then, he asks, what did Hegel regard as the highest view of reality; what does he give us as the final view of ultimate reality? And, alluding to Hegel's doctrine of the development of the World Spirit, Professor Pringle Pattison says that it is difficult to avoid the conclusion that Hegel meant to take human self-consciousness, as it appeared in the nineteenth century, and with that to identify the highest manifestation of absolute mind. Well, in this view Professor Pringle Pattison is following Lotze, who made the same criticism of Hegel, and declared that it was impossible to think that the movement of the absolute mind could have culminated in what he called "a dialectical idyll on the shores of the Mediterranean." I notice that most of those who demur to the shores of the Mediterranean,

seem anxious to suggest that the culmination of the manifestation of absolute mind is rather to be found upon the banks of the Jordan. But neither Lotze nor Professor Pringle Pattison say this, and my own view is that Hegel would not have recognised that there was any real issue which could legitimately be raised between his point of view and theirs.

Hegel took human experience as he found it, and sought to think it out again in the light of the science of his age. He set himself to solve the very same problem which Aristotle put before himself—how to present as a system human experience taken in the light of the highest conceptions which could be brought to bear upon it. Hegel never, as I think, meant to identify the absolute mind with human consciousness; or to say that, because the absolute mind manifested itself at a particular plane of its development in what we call human consciousness, you had, therefore, got an adequate picture of the absolute mind. What I understand him to have meant is that you must always deal with the "that," with an individual, and that in the stage of history which in our time has been reached—we have got what for us is the highest picture of it, with the certainty that as knowledge gets richer we shall get to a conception yet more adequate, and that, if human thought were not subject to the limitations of human weakness, we might have a conception of absolute mind beyond any which

discloses itself in even the very highest contemporary manifestation of human self-consciousness. And, therefore, it seems to me that Professor Pringle Pattison, in the countenance he lends to Lotze's criticism, is hardly doing justice to Hegel, because, although I agree that there are ambiguous passages in Hegel, commentators like Dr Hutchison Stirling have pointed to other passages in which his (Hegel's) conclusions on this point are in a different sense.

Now, in his book *Hegelianism and Personality*,* Professor Pringle Pattison takes another point. He says that Hegel "deprives man of his proper self by reducing him, as it were, to an object of a Universal Thinker," and "leaves the Universal Thinker also without any true personality." Then he goes on, † "If we speak of God at all, there must be a divine centre of thought, activity, and enjoyment, to which no mortal can penetrate." ‡ "The point of my criticism has been that in its execution the system breaks down, and ultimately sacrifices these very interests to a logical abstraction styled the Idea, in which both God and man disappear."

It is no business of mine to stand up here as the apologist of Hegel or of any other philosopher, but I think that the Hegelian conception is so closely akin to the conception which we have been

* *Hegelianism and Personality*, Second Edition, p. 233.
† *Ibid.*, p. 224.
‡ *Ibid.*, p. 242.

discussing through these Lectures that it is right to point out that this conclusion of Professor Pringle Pattison seems to be founded upon a too narrow view of what is the outcome of this way of looking at things. It seems to assume that very separation of the universal of thought from the particular which we have been combating. Of course, Professor Pringle Pattison's standpoint is very different from that of Professor James and Mr Arthur Balfour. He accepts the entire Hegelian criticism and most of the constructive side of the system, and only stops short at the end; and in the later book, *Man's Place in the Cosmos*, in his admirable critique of Mr Bradley's *Appearance and Reality*, he does not even stop short at the point where he stops in the earlier work, but pronounces himself frankly Hegelian.

In his little book on *Theism*, Professor Pringle Pattison again illustrates the gulf which separates him from Professor James and Mr Balfour. Agreeing with the Hegelian criticism upon those who deny or ignore the immanence of reason in the world, he doubts* whether Hegel did not assign to reason too important a part. "It is well, as Hegel does, to insist on the *rational* character of the Universe, but to make Thought the exclusive principle is either to fall into a one-sided extreme or to use 'thought' in a non-natural sense. Thought cannot fairly be made to include will,

* *Theism*, p. 45.

and any theory of the Universe which neglects the fact of will omits that which seems to communicate a living reality to the whole. A system which, like Hegel's, lays exclusive stress on thought, is always in danger of reducing the Universe to a phantasm of the intellect—an impersonal system of thought harmony—or, in Mr Bradley's vivid phrase, 'an unearthly Ballet of bloodless categories.' 'In the purposive "I will" each man is real, and is immediately conscious of his own reality.'" *

That is Professor Pringle Pattison's criticism, and if Hegel had really laid down the doctrine against which he is contending, I should agree with that criticism. But whatever shortcomings in expression there are here and there in Hegel, they seem to me to arise, not from a want of desire to insist on the "that" in self-consciousness, but from a habit he had of constantly using his own special terminology in description. He is perfectly well aware of the limitations which language imposes on him. Does he really differ from the conclusion arrived at by Professor Pringle Pattison? Let us see. I will quote first from the Introduction to his "Logic" in the *Encyclopædia* †:—"The content, of whatever kind it be," writes Hegel, "with which our consciousness is taken up is what constitutes the qualitative char-

* *Theism*, p. 46.

† Hegel's *Encyclopädie*, par. 3. *The Logic of Hegel*; Wallace's Translation, Second Edition, p. 6.

acter of our feelings, perceptions, fancies, and ideas; of our aims and duties; and of our thoughts and notions. From this point of view feeling, perception, etc., are the *forms* assumed by these contents. The contents remain one and the same, whether they are felt, seen, represented, or willed, and whether they are merely felt, or felt with an admixture of thoughts, or merely and simply thought. In any one of these forms, or in the admixture of several, the contents confront consciousness, or are its *object.* But when they are thus objects of consciousness, the modes of the several forms ally themselves with the contents; and each form of them appears in consequence to give rise to a special object. Thus what is the same at bottom may look like a different sort of fact." Now let us pass on to the third part of the *Encyclopædia* and see what Hegel says of the nature of mind when he comes to deal with it: * "The essential but formally essential feature of the mind is Liberty," he says, "*i.e.*, it is the notion's absolute negativity or self-identity. Considered as this formal aspect it *may* withdraw itself from everything external and from its own externality, its very existence; it can thus submit to infinite *pain*, the negation of its individual immediacy; in other words, it can keep itself affirmative in this negativity, and possess its own identity." "The distinction of Intelligence from Will is

* Hegel's *Encyclopädie*, par. 382. Hegel's *Philosophy of Mind;* Wallace's Translation, p. 6.

often incorrectly taken to mean that each has a fixed and separate existence of its own,"—(the very point which Professor Pringle Pattison falls foul of; Hegel has the very distinction which Professor Pringle Pattison deals with clearly in view)—"as if volition could be without intelligence, or the activity of intelligence could be without will. The possibility of a culture of the intellect which leaves the heart untouched, as it is said, and of the heart without the intellect—of hearts which in a one-sided way want intellect, and heartless intellects—only proves at most that bad and radically untrue existences occur. But it is not Philosophy which should take such untruths of existence and of mere imagining for truth—take the worthless for the essential nature. A host of other phrases used of intelligence, *e.g.*, that it receives and accepts impressions from outside, that ideas arise through the causal operations of external things upon it, etc., belong to a point of view utterly alien to the mental level or to the position of philosophic study." *

Now Hegel does not here deny the distinction between will and intellect. What he says is that it turns out to have been provisional merely when it is examined from a standpoint at which neither will nor intellect is reducible to the other, but is shown to have been distinguished only by abstraction, legitimate for the purposes of everyday life,

* Hegel's *Encyclopädie*, par. 445. Hegel's *Philosophy of Mind*; Wallace's Translation, p. 64.

but not legitimate when the ultimate nature of reality is being sought. The objection to his language is like the objection to the language of the mathematician, who is sometimes forced by the necessities of usage to speak of *dy* as if it could be separated from *dx*.

If Hegel were reducing the Universe to self-subsisting substance, as Spinoza did, there would be room for the charge that he reduces God, not only to a bare identity, but to human self-consciousness. But the human self-consciousness is only an aspect, a stage, a plane, a degree in Reality. The dog and the angel disclose other degrees of the logical evolution of the categories of mind. And human self-consciousness, like all that is individual, transcends itself. In art, morality, religion, when we come later on to deal with them, we shall see that this is so, and that their prophets have told us the truth.

There is no warrant in the mere fact that human self-consciousness is our "that" — our πόυ στῶ—the basis upon which we conduct not only the whole of our everyday intercourse with our fellow creatures, but our most abstruse and scientific thinking — there is no warrant in this, I say, for regarding human self-consciousness as more than a finite and relative presentation of Reality. The great doctrine of Hegel, and, as I read him, of Aristotle, is that when the immediacy of our world of self-consciousness is thought out, its "that" discloses a new significance, a

fuller "what," seen to be its meaning at a plane on which intelligence and will are no longer separated by the appearance of pertaining to different faculties. Personality may in one sense be said to be the highest of all categories—the conception in which the transcending of subject and object takes place, and the mind is *in* its object and the object is *for* the mind. Now if the universal and the particular are indissolubly united in the individual, you have equally got the union in that highest conception of individual experience which you have in personality. In personality the whole manifests itself in the parts as it does in life, but in personality there is a great deal more. You have got the relationship at that level which I pointed out to you when I was examining the distinction between consciousness and life, a level at which the self excludes nothing, but comprises the entire Universe. For the objectivity of this Universe is, as we have seen, wholly the work of the mind, and is thus *for* it; while, on the other hand, the mind *is* only in so far as it realises itself, or, in other words, only in so far as the universal and particular have reality in their union in this work. The self, the spirit, is the totality of a process, which, so far from taking place in time, is presupposed as the condition through which experience in time becomes possible. Thus the self is free, and in so far as it comprehends itself as free, it is a person. It is then difficult to see how we

get rid of the conception of mind as personal. Personality is just the basis on which we proceed as soon as reflection has overcome for us the apparent foreignness of the object world, and even when thought out at its highest, it would seem as though the mind must still be characterised by what we call self-conscious personality. It may be that along these lines there is possible a conception of personality, so much above the plane of human experience, that it must properly become an object of what we call worship. In relation to such a personality, our own separate minds may turn out to be, when the provisional nature of the level at which they are for us is fully grasped, mere appearance. At such a standpoint, the categories of the One of the Many, would, of course, be transcended. But I will not linger over the conception of personality in this highest sense, because I shall have to return to it in the second course of these Lectures.

What hampers us is that we start in the hard-and-fastness of common perception from the level of the particular individual, and that it is only in the universals of reflection that we are, at that level, able to transcend it. If I am to remain a human being, if I am to continue to stand as I do to my kind, I must, even in my philosophy, be human; that is to say, it is only in reflection, and occasionally in the *aperçus* of art, that, at least on the theoretical side, I can transcend my standpoint. And yet in various phases of

life which are not theoretical, I do transcend my standpoint. The artist, the poet, the moral being, the religious man—they seem to escape from the closed circle. They touch a higher level; it seems as if they could comprehend at a higher plane of intelligence, and thereby they show us how even finite beings can approach near to God.

Hegel has a sentence which is worth quoting in this connection, because he shows in it how essential reason, the power of thinking, is to religion. He points out that the beast which does not think, in the sense in which we are using the word, is not religious; and that the higher you go in the scale of capacity to *think*, the more distinctly do art, morality, and religion emerge, so that it becomes plain that these are just phases in which thought is manifesting itself. He says:* "Man—and that just because it is his nature to think—is the only being that possesses law, religion, and morality. In these spheres of human life, therefore, thinking under the guise of feeling, faith, or generalised image, has not been inactive: its action and its productions are there present and therein contained."

Now, in connection with this topic, my predecessor in one of these Lectureships, Professor Royce of Harvard, has made some striking contributions to the treatment of the subject. In the chapter headed "The Union of God and

* Hegel's *Encyclopädie*, par. 2. *The Logic of Hegel*; Wallace's Translation, p. 5.

Man," in the second volume of the series of Gifford Lectures which he calls *The World and the Individual*, he asks the question: How can I know my finite nature? He answers that, rightly viewed, I am linked, even in my weakness, to the life of God, and the whole Universe is linked with the meaning of each individual. In God, he says, I possess my individuality. The human self is not a substance, it is not a thing, but a life with a meaning. No one can more strenuously than Royce refuse to separate Intelligence from Will. The individual is for him the embodiment of a meaning, a purpose, an end, in which Intelligence and Will are found to be one.

* "Personality, to our view, is an essentially ethical category. A person is a conscious being whose life, temporally viewed, seeks its completion through deeds, while this same life, eternally viewed, consciously attains its perfection by means of the present knowledge of the whole of its temporal strivings. Now, from our point of view, God is a Person. Temporally viewed, His life is that of the entire realm of consciousness in so far as, in its temporal efforts towards perfection, this consciousness of the universe passes from instant to instant of the temporal order, from act to act, from experience to experience, from stage to stage. Eternally viewed, however, God's life is the infinite whole that

* Royce, *The World and the Individual*, vol. ii., p. 418.

includes this endless temporal process, and that consciously surveys it as one life, God's own life. God is thus a Person, because, for our view, he is self-conscious, and because the Self of which he is conscious, is a Self whose eternal perfection is attained through the totality of these ethically significant temporal strivings, these processes of evolution, these linked activities of finite selves. We have long since ceased, indeed, to suppose that this theory means to view God's perfection, or his self-consciousness, as the temporal result of any process of evolution, or as an event occurring at the end of time, or at the end of any one process, however extended, that occurs in time. The melody does not come into existence contemporaneously with its own last note." *"God in His totality as the Absolute Being is conscious, not *in* time, but *of* time, and of all that infinite time contains." And again: †"Every fragment of life, however arbitrarily it may be selected, has indeed its twofold aspect. It is what it temporally is, in so far as it is this linked series of events, present in experience, and somehow contrasted with all other events in the universe. It is what it eternally is, by virtue of those relations which appear not now, in our human form of consciousness, but which do appear, from the divine point of view, as precisely the means of giving their whole meaning

* Royce, *The World and the Individual*, vol. ii., p. 419.

† *Ibid.*, p. 429.

to these transient deeds of ours. To view even the selfhood that passes away, even the deeds of the hour, as a service of God, and to regard the life of our most fragmentary selfhood as the divine life taking on human form,—this is of the deepest essence of religion. From this point of view it is indeed true that now, even through these passing deeds, we are expressing what has at once its eternal and its uniquely individual being."

I have quoted Royce to you, because I wanted to show you that the notion that the ultimate reality is nothing but abstract thought or reason, is not the conclusion to which some of the most thoughtful students of Hegel have come, as the result of applying his methods. Royce is distinguished among those whom Hegelian conceptions have influenced, by the extent to which the notion of will is prominent in his system. He has viewed, in the book which I have quoted, the ultimate reality as a mind, active on the practical side as will, quite as much as active on the theoretical side as reason, and he has proposed to identify each individual human life as a purpose, as one among the purposes or manifestations of the divine mind. He has no difficulty in getting, upon this footing, to a notion of reality in which will, the moral element, is certainly quite as prominent as the intellectual; and we may set Professor Royce against Professor Pringle Pattison in the controversy as to the outcome of the

Hegelian system. I must say for myself that I think that Professor Royce goes to the other extreme, and that to be logical he would have to try to deduce, as he almost seems to do, the individual of experience itself out of what he calls purpose or meaning. I think we are safer in simply taking the individuals of experience as they come before us, not trying to explain them as resoluble into anything beyond, but recognising in the satisfaction of the will, a valuable test, but no more than a test, of whether we have actually got to the bed rock of real unique individuality.

It is because of narrow categories that we get into the dilemmas which frighten philosophers. We keep on with our pictorial representations of what cannot be pictorially represented under these narrow categories, at a level of conception too low to enable us to get any adequate comprehension of reality. It may be that as finite human beings we can never fully rid ourselves of this tendency, which our daily social life seems to require. Goethe says somewhere that "man is born not to solve the problem of the universe, but to find out where the problem begins, and then to restrain himself within the limits of the comprehensible." That is true, no doubt, if he means that man, finite as he is, living at a standpoint from which he cannot tear himself away without ceasing to be a man among his fellow-men, can never present to himself, with the fulness of immediate knowledge, a conception

of reality to which he can only attain by abstract thought. But to say, as Professor Pringle Pattison does, that we must recognise that there is a region which we cannot penetrate, and as to which a wise agnosticism is the only judicious attitude, is, if we take the words literally, to assert that there is some gap in the fabric of reason, some mystery in reality which reason cannot penetrate. But if there be such a gap, if there be such a mystery, then surely it is itself the creation of reason, and reason—to use a metaphor which I have used before—must be adequate to bridge over the gulf which reason has made. No doubt the spectres which are raised by the narrowness of our categories disappear, when we once realise that they are due to narrow categories. We are not in the difficulty in which the theologians are when they talk as if they had to set up another world to redress the balance of this one. We are really breaking down the hard-and-fastness of the world in which we live, and disclosing its true and deepest reality as belonging to a standpoint relatively to which our present standpoint is mere appearance.

Then, besides this difficulty which I have alluded to in Professor Pringle Pattison's criticism, it seems to me that when he offers us a constructive alternative, he falls into the very shortcoming which he criticises. When he speaks of a "divine centre of thought activity into which no mortal can penetrate," and enjoins an attitude

of tempered agnosticism, he is really no agnostic. For he is surely setting up once again the category of substance and the relation of the One and the Many. If he seeks to do more than to call a halt to the arrogance of some of Hegel's disciples, we must put to him Berkeley's new question, and ask, What do the words mean? If no answer can be given, then following Berkeley, we may apply the old maxim:—"De non apparentibus et de non existentibus eadem est ratio." "Things to which we can attach no meaning are things of which we cannot say that they exist." And it is no answer to refer us to Faith. He who does so comes at once within the range of the guns of critics like Professor James. For Professor James tells us that, in the light which modern Psychology has cast on the functions of the subliminal self, the attitude of the man of faith, the man of immediate certainty, is one which "antedates theologies and is independent of philosophies. Mind cure, theosophy, stoicism, ordinary neurological hygiene, insist on it as emphatically as Christianity does, and it is capable of entering into closest marriage with every speculative creed."* Therefore, it would seem that the only safe place, the only foundation upon which we can build a faith in things unseen, is the foundation of Reason itself, which must be capable of spanning the gulf which Reason has created.

* *The Varieties of Religious Experience*, p. 289.

In the next Lecture I shall complete this first part of the series, the part which deals with the ultimate nature of reality, and then a new topic rising out of the one we have just considered will have to be dealt with.

LECTURE VI

In the course of the last five Lectures, a view of knowledge has been developed which is, in many respects, very different from that which was current in the old text-books of Logic and Psychology.

Of late years thinkers have given very much more prominence to the ideas of life, of growth, and of volition or will, than was formerly the case. Even in connection with the problem of knowledge, the *practical* aspect of the self in volition has come to be much dwelt on. This has been due in part to a negative reason, to reaction against the extreme formalism of the disciples of the great German thinkers of last century, and to dislike of the very extreme and one-sided representations of their systems which were afterwards pressed forward.

On the affirmative side, however, there have been two streams of tendency in speculative science, both of German origin, which account in great measure for the change. The first of these is the influence of Schopenhauer. Schopenhauer, as you know, made his point of departure

take place over the teaching of Kant. He insisted that a true reading, a true development, of the conclusions of the Kantian system would lead to the recognition of the Kantian Thing-in-itself as Will, and he dwelt upon the notion of Will as the truth of reality, and upon knowledge as a pain-giving illusion which the wise man, the philosopher, would seek to get free from.

Well, Schopenhauer had this great merit in a philosophical writer, that he had the instinct for facts very intensely developed in him, and as one consequence of that quality, he put forward his case with a freshness and fulness of detail which caused it to exercise a profound influence upon people about him. But he, too, comes under the guns of Professor James. The immediate experience to which he appeals, the direct knowledge which he invokes, might be labelled anything just as accurately as will, and the foundation upon which he built his system has turned out to be one of shifting sand. He was apt to use phrases uncritically, and he fails to explain how he gets to Will as the nature of the Thing-in-itself.

The other stream of tendency to which I allude took its rise with Herbart, a very acute thinker, and was still more developed in its modern form in the hands of my old master at Göttingen, Lotze. Lotze was one of those whom nobody who has seen can ever forget. He was

a man, not merely of great intellectual stature, but of high moral worth; and you could not be in his presence without being dominated by the sense of his personality. I have often thought that Lotze resembled Kant in that respect. We have nowadays broken away in great measure from the Kantian teaching, so far as its theoretical side is concerned; but the influence of Kant's personality still remains, because the moral figure of Kant appeals to all students of Philosophy. So it has been with Lotze. He was just one of those people whose personality is greater than their work. It is apparent in almost every line of his writings, and the consequence is that he has had an influence out of proportion to the value of his theoretical teaching. His principle was that knowledge was not adequate as a presentation of reality. He frankly divorced reality and knowledge altogether, and, although he did not degrade knowledge to the extent that Schopenhauer did, or treat it as a mere veil of illusion, still he resolutely insisted that you could not, through knowledge, attain to the nature of reality. The consequence has been that scrutiny has tended to show that Lotze, like Schopenhauer, proceeded *per saltum*. Herbart and he have turned out to have been relying upon a bridge which will not bear the weight which they both tried to impose upon it.

But the close scrutiny of the actual facts of the process of knowing to which men like

Herbart and Lotze called subsequent thinkers, has led to one great result. The science of Psychology and the science of Logic have been revised under their influence. If, for example, you take Logic as meaning the science of the construction by the individual mind of its world of reality, taken as a process in time—a definition which I think would fit the text-books of the most modern type—you find that there have been co-operating, in producing the view of Logic which these text-books show, a series of modern writers of great distinction, largely influenced by Herbart and Lotze. Men like Sigwart, Bradley, and Bosanquet, have done work which stands at a very high level indeed.

Well, there has been another result of this revision of current logical and psychological notions, and the consequent development of these two sciences. There has been a demand for a restatement of the thesis of idealism on a basis more close to concrete facts. Modern Science has disclosed a great deal which was not in men's minds in the early days of idealism, and the apparent rebuff which idealism has suffered has turned out to be a rebuff which has caused it to retire for a moment, only to reappear with increased vigour. "*Reculer pour mieux sauter*" has been its motto.

What has tended most to bring about the restatement and reconstruction of idealism is the fresh material which the modern idealists have had

to deal with. Aristotle wrote at a time when the results, which for modern Science are commonplaces, were non-existent. And although Hegel wrote less than a century ago, we see to-day that he was in a position not altogether dissimilar. He scrutinised the facts of experience, and investigated the broad features which distinguish nature as such, before the development of modern Science had put his material on a new footing. There was no Dedekind to work out for him the science of number; there was no Lobachewski to throw new light on the assumptions of the Euclidean geometry. Joule and Helmholtz and Kelvin had not yet elaborated the theory of Energy; nor had biologists, like Schleiden and Schwann and Johannes Müller, revised the conception of the living organism and the methods of Botany and Physiology. No Darwin, bringing to his facts the insight of genius, had yet given to the world the conception of the origin of species and the view of evolution which came with it. The work of a Hegel was, therefore, necessarily abstract. It had to be done without the insight which these great minds have given to a later generation into nature and her processes. He was without the materials which we should consider absolutely necessary, and when criticism is brought to bear upon his work—the criticism of those to whom all those things have become matters of everyday knowledge—we can only feel that this was bound to be so, and that it gives the oppor-

tunity for doing over again a great deal of work, which must necessarily be done over again from time to time, as the subject matter on which it has to operate varies and becomes enriched. The critical attitudes of men like Professor James, Professor Royce, Professor Pringle Pattison, and Mr Bradley, are all to the good. It is to the good that there is so much of what one may call an independent re-thinking taking place in our time. There is no more striking feature in modern Philosophy than the way in which, across the Atlantic, in Harvard University, you have men like James, Royce, and Münsterberg, examining all over again the old problem, restating the old questions of Philosophy with a keenness of insight that gives one the feeling that the next great step forward in the history of speculative thought may come, not from this old side of the world, but from the United States of America.

Well, the standpoint which we have been trying to work out in these Lectures discloses that for knowledge the essence of the real world lies in its aspect as dependent on a system of universals, that is to say, upon mind ; and that alike in thought, in perception, in feeling, so far as these are individual and definite, the process is a process of self-recognition, or of the finding of itself, if we may call it so, by mind. This, as we have seen and as I have insisted over and over again in these Lectures, does not mean that the object can be resolved into the universals of thought. But it

does mean that when we reflect we separate out these universals, and preserve and label them in language which deals with and can record nothing but universals. In the system which is so established lies the real objectivity of the world, as distinguished from the mere hard-and-fastness which has been shown to be nothing more than the outcome of abstraction at certain standpoints and for certain purposes. The modern developments of the Sciences of Psychology and Logic bear this out.

Let me take Psychology first. Psychology we may define in a modern fashion, following Bradley and Bosanquet on this point, as the Science which is concerned with the facts experienced by a single soul considered as events which happen—that is to say, as an immediate experience taken as belonging to something that has a past and a future. Now, there is a preliminary observation which one has always to make in using a definition of this kind. It necessarily involves presuppositions, because this is a Science which professes to take things at a definite standpoint, and that is what distinguishes Psychology from Metaphysics, which is not concerned with the merely relative aspects of things, but always must have as its object the ultimate nature of reality. Psychology starts, and professedly starts, with the assumption that the soul is known as an individual in time; in other words, it presupposes the entire system of the object world in which the soul is just an event,

or a series of events. This is the outcome of reflection at an abstract point of view, and Psychology itself discloses this characteristic when you follow out its teaching. The child, the infant, does not distinguish itself from the world that confronts it. The notion of itself as distinct from the world confronting it is only evolved by degrees as the result of its education—I mean education in the most elementary sense, the tuition which nature gives—and as the outcome of certain purposes, consciously or unconsciously formed, which guide the child in the organisation and building up of its experience, and teach it to look upon itself as belonging to the social whole of which it really forms a part. At first it does not know itself as distinct from the world. Probably one of the earliest ideas borne in upon its consciousness is that there is a part of its outside surroundings —the part which ultimately it comes to recognise as its body—which has a capacity for feeling which other outside things do not possess, and through this power of feeling it distinguishes, for example, its finger from the table on which the finger presses. The child's knowledge is not a process which begins with a definite system of experience and then by abstraction builds up from this the knowledge of a world, but a process of making more and more definite what is at the outset an indefinite continuum. I use this word "continuum" because I want to impress upon you that for the psychologist there is no

warrant for the assumption that experience, even in its simplest form of feeling or sensation, begins with isolated units. There can be no such thing as a separate feeling or sensation, unless thought has first been there with its universals to qualify the particular into an individual. The beginnings of mind, the beginnings of intelligence, rather disclose themselves as an indefinite which by degrees is made more and more definite.

Now, while that is perfectly true as regards the general result of psychology, the psychologist has at times to use methods which ignore this origin of the furnishing of the mind. The psychologist above everything wants to bring his science into definite relation with other sciences, and we consequently hear a great deal nowadays of what is called Psychophysics—the bringing of Psychology into systematic connection with Physiology and with Physics. The outcome of Psychophysics is a tendency on the part of the modern psychologist to look more and more at the stream of events in his mind, the subject-matter with which he has to deal, as though it consisted of definite units of feeling or sensation which could be separated and pieced together. It was very much upon this footing that Hume was proceeding when he said he could not find a separate impression of the self. But such a procedure is artificial, and is not a natural mode of regarding the mind. Modern psychologists know this very well. I will quote only one of them, Professor Münster-

berg, who puts the matter in the following words in that very suggestive little book of his, *Psychology and Life:** "This is the point which even philosophers so easily overlook: as soon as we speak of psychical objects, of ideas and feelings and volitions, as contents of consciousness, we speak of an artificial transformation to which the categories of real life no longer apply,—a transformation which lies in the direction of causal connection, and which has, therefore, a right to existence only if the right to extend the causal aspect of nature to the inner life is acknowledged." . . . † "The working hypothesis of Modern Psychology—that every mental state is a complex of psychical elements, of which each is the accompaniment of a physical process in time and space, and influences others or is influenced by others merely through the medium of physical processes, —is then not an arbitrary theory. It is the necessary outcome of the presuppositions which the human will has freely chosen for its logical purposes, and to which it is bound by its own decision."

Observe how, in the last sentence, this distinguished psychologist insists on what I have been pressing on you in these Lectures, although he approaches it from quite another quarter. He points out that it is purposes or ends which organise our immediate experience, and give to it its appearance of reality.

* Münsterberg, *Psychology and Life*, p. 267. † *Ibid.*, p. 271.

Again,* explaining the artificial basis of the psychophysical standpoint, he says: "Psychical states must be described somehow; otherwise the possibility of psychology would be excluded. If they are not directly communicable, we must take refuge in indirect methods; if the psychical facts are never object for two, and thus strictly individual, we must link them with physical processes which belong to all."

What he means may be explained thus: If I look into my mind, and become conscious, first, of an act of attention, a concentration of thought, and then of a movement of my lips in expressing the result of my thoughts in words, there are present two distinct sets of phenomena, of one of which I myself alone am conscious, of the other of which you are all conscious. You can all see my lips move. You could even, if the contents of my brain could be dissected without putting an end to these Lectures, see the physical concomitants of the process of the development of my thought and its expression going on in such a fashion that every individual in the room could have experience of them. But the working of my own mind exists only for me. In the same way, while I cannot dive into the inner experience of those of you who sit there before me, I can receive communications from you about it, through those universals of language which are the main medium of intercourse between human beings.

* Münsterberg, *Psychology and Life*, p. 49.

Münsterberg points out that Psychology can only give us direct experience of what is going on in our own minds, and that, in order to get what is common to ourselves and other people, we must resort either to mere abstract descriptions in language founded on the universal element which has been separated out by reflection, or to the physical processes which accompany mind. Therefore, the physiological psychologist endeavours to transform the presentation of his mental experience into that kind of abstract atomism of which Münsterberg speaks. It helps him to connect psychical with physical phenomena, the latter of which he can subject to exact measurement, and so indirectly measure the former. But when you are trying to trace the genesis of the development of a child's consciousness, you are driven away from the point of view which we have been discussing, and which is sometimes called "Presentationism." Because of its double method, Psychology is a complex science. No doubt the first method is the natural one. But this method of presentation of which I have spoken is a very characteristic feature of the Psychology of our time; and in reading books upon Psychology, and in making use of the results which we get in them, we must always remember the transformation of which Münsterberg speaks as having taken place, and which exists only from standpoints and for purposes which are not the standpoints or purposes of

the investigator into the ultimate nature of reality.

Passing from this phase of things, and going on, the only other observation which need be made here about the presentational method in Psychology is that it takes a course which is justified only by the presupposition of a system. If it be said, for instance, that a change in the self must be antecedent to any knowledge of that change, the answer is, that this view presupposes an abstract knowledge of a system in which the process takes place, a system in which the self has a position, and that the consciousness or knowledge of the mere change is in time antecedent to this abstract knowledge of a system in which it occurs. In other words, you have an inversion of the natural order of things when you are at the psychological point of view. The fact first in time is really the last in reflection, and in the abstract system of knowledge which Psychology creates the natural sequence is just inverted. Even acute writers often forget this, and confuse the order of things, overlooking the artificial nature of the science with which they are dealing.

Modern Psychology has brought out a number of important results of which the earlier writers knew very little. The notion of subconscious processes, which Professor James has so fully discussed, and the notion of corporeal feelings, organic sensations, which has more than any-

thing else to do with what the ordinary man means when he speaks of his body and identifies it with his individuality,—these cast light upon what we mean by the expressions we use in our everyday life. But, like all conceptions of the kind, as soon as we try to make use of them for other purposes, they disclose themselves as self-contradictory and vanishing. And it is quite clear that if we simply let thought play naturally upon itself and look at what the genesis in time of the life of the soul is, apart from artificial presentation, we shall find that the origin of the soul's life is not a series of atomic feelings, as Hume thought, but the making more definite of an indefinite and changing continuum.

Now look at one or two of the fallacies that people have fallen into by neglecting this very plain fact. We hear a great deal of the laws of association as being the real reason why one idea gets associated in memory with the image of another, and so on. But before you can have any association of ideas you must have the ideas already juxtaposed in some relation, and that you can only have if you have already got the very system of the object world, the genesis of which you are trying to account for by association. Association depends on identity of content, and presupposes, as the condition of its possibility, the very system of associated psychical events which it is called in to account for. It is of

very little use to the searcher after the ultimate nature of reality.

Again, take the notion of the Ego. If you look quite simply into your own bosom and try to find out what your Ego is, you will find that you have embarked upon a very difficult task. You first eliminate corporeal feeling; you then eliminate all the contents of memory, and your position as a particular "this" in the general world, and the result is that your Ego comes to disclose itself as a mere asymptotic regress towards a notional pure subject of knowledge,—a thinker without thoughts, an abstraction, nothing at all. The truth is that you cannot get, by this method, any abiding conception of the individual. The individual eludes you, just because when you pass from the rough and practical, though complex, way of looking at things, in which, in daily life, individuality comes directly before you, and take to looking into yourself psychologically, you have passed from the standpoint of practice, at which the self had a definite meaning, and are putting that conception to a use which goes far beyond the practical purposes of life. When, for instance, in daily intercourse we use expressions that import personal identity, our meaning is always relative to some special standpoint. We really have some social reference in our minds. There is a basis of presupposition in the very phrase, and unless we know what that presupposition is, it is clear that we shall entangle ourselves.

The same kind of confusion exists about the notion of the soul as distinct from the body. If there is any truth in what has been said in the preceding Lectures, it is ridiculous to suppose that the soul is a thing existing apart from the body. When we take the word "soul" quite simply, and ask what we mean by the use of the expression, it is plain that what we are talking of is just the life of the individual looked at from a higher standpoint than that of mere life. When we speak of the soul of a man, what we mean is just the man considered as rational, as responsible, as a free moral agent, as capable of the experiences of a human being. We are really taking the notion of the individual, which in everyday life we do not analyse or fix precisely without making any attempt at an exhaustive definition of it. When we speak of a man's soul, we really mean the highest aspect in which the man appears in everyday experience. The relation of the soul to the body is much better expressed as the individual regarded from the highest standpoint, and in the aspect in which the rest of his life finds its completion, than in any metaphor that suggests a thing distinguished from another thing. Soul and body are related as higher and lower, and it is just one of the advantages of the idealistic standpoint that it can accept the common-sense way of looking at the matter, quite fully and simply, and so avoid many of the consequences which follow from the adoption of

other standpoints. We are not in any danger of materialism when we take things so, because we are not regarding the world as made up of separate phases, each of which represents an independent reality. We are looking upon the world as containing a series of aspects, and, when we come to the aspect of the soul, we have got an aspect of the human being just as real as the bodily aspect, and one in which we rise to a standpoint from which the consequences of identifying the individual with his body no longer trouble us, because they have no longer any terrors for us.

Now I think one thing has been made pretty clear, and that is, that the notion of the particular self is a derivative conception which appears far on in the course of the development of knowledge, and which cannot be taken as its foundation. With that observation I turn to Logic.

Logic starts with this derivative conception of an individual mind which is supposed to be, in its everyday life, somehow in contact with reality. Just as Psychology, when you work it out, finds for you no resting-place, so Logic works away from the standpoint from which it started, the notion of the mind as somehow different from reality. Logic shows how the world is built up by the individual mind, how the individual constructs his object-world of experience. It is not like Metaphysics, because it is looking at this as a process of an individual mind; and it is not like

Psychology, because it is considering this process, not as a series of events, but as the connected process of thought by which the world becomes what it is for the individual mind. That is the view of modern Logic. There is a great gap between this view and that of the old Logic. Before people had applied their minds to the criticism of the categories they used, they took Logic to be a science which could be dealt with by itself, and isolated from the rest of Philosophy. Looking at Logic in the light of what we now know to have been a misconstruction of the spirit of the Aristotelian system, there is no doubt that it was erected into what was conceived to be a very simple science, but was really a most artificial one. The result has been that the science of Logic has stood still. Though in Aristotle we find something like the hard definitions of the subsequent formal Logic, still we must not assume that Aristotle did not know a great deal better than his would-be interpreters. Aristotle's Logic, as has been observed, may be taken to be the method by which he taught his pupils to commence their metaphysical investigations, and it may well be that Aristotle adopted only provisionally what is really an artificial view of things because he found it the best introduction to the study of Philosophy.

Well, Logic, as we conceive it nowadays, carries us beyond the self into an objective system—just

such a system as Mill's Permanent Possibilities came to be—and that objective system consists of what we are obliged to think. The mind is free, but the nature of the mind is to be rational, and the mind, following out its own processes, is accordingly logically obliged to think in subjection, as it were, to certain principles which give us the objective world. In that way the τέλος, the end, the universe as a completed whole, is presupposed in every attempt to make what is indefinite in knowledge more definite. I will follow this out in a moment, but what I want to keep before you is that, as has been pointed out in the earlier Lectures, reality consists in an objective system,—that is to say, a system in which the subject of the judgment is made definite and made permanent by making explicit in the individual the union of the universal with the particular. It is on the universal aspect of the individual that thought in its abstraction dwells, and Logic is just the building up and the ascertainment of the system of these universals. In that light many notions, so familiar that we seem to be passive in apprehending them, such notions as present and past and future, are all found to be constructions of thought which belong to the universal. The general conceptions of a "Here" and a "Now" are likewise constructions of thought. When one man says to another that he sees the same world as the man to whom he speaks, and that other understands him, they both mean a

common objective system of relations; and what is communicated is the universals of thought which language deals with and embodies, and thus makes possible the establishment of a certain correspondence between the views of each particular mind. These correspondences are not mere abstract identities. One man eats a loaf, and another, seeing him do it, understands what he is doing, and understands it by means of a common system of universal conceptions, through which their experiences correspond in a fashion that makes to each real what the other is doing.

The modern theory of the judgment starts with the individual. The self is taken as, to use a metaphor, in contact with a "this," an individual of knowledge. The mere fact of "thisness" is a universal of thought, but the judgment does not start with a universal thought. It starts just with reality, and reality is a particular qualified by a universal, and is therefore always individual. The reality of the two is only to be found in the individual, and it is only by abstraction that you can break them up. When I say "this tumbler," I describe it as "this" by an abstraction of thought, dragging out the universal element in it; but none the less I start in my judgment with an actual individual of experience, which I cannot construct in thought, and which I cannot get away from. The judgment then starts with the "this," and the "this," when we follow it out, is found to be

related to, and inseparable from, the Universe taken as a whole. In the individual I have got a potential and implicit relationship to the whole universe, and the judgment, starting with this, proceeds to unravel the system of reality. I amplify this present perception by adding an ideal content, and, looking at it, I say, "A tumbler full of water." I have qualified my "this" by a "what."

Knowledge is thus a continuous judgment, proceeding always by the qualification of what is real, that is to say its subject, and the subject is just the phase of the reality of the universe with which we are in contact. Every judgment begins with an individual "this" or "that." The "this" or "that" can never be deduced. The judgment can qualify it, and does qualify it by bringing it into a new relationship which can only be expressed as a universal, and so we get back the "this" or "that" enriched with a new meaning.

Take, for example, the 47th Proposition of Euclid: The squares of the sides of a right-angled triangle equal the square of the hypothenuse. — I start with the right-angled triangle, and taking it as a "this," I proceed to qualify it by judgment after judgment, dragging out its implication, the τέλος which is presupposed in it, and I thereby continuously enrich the conception of this right-angled triangle with which I started. I give it new meaning and a new

significance until I arrive at the conclusion. It is this consideration that has led people to say that the judgment is not really an act in time. It is presupposed by the reality of things in time, and, viewed even as a process of the individual mind, it is a bringing to light what was implicitly there at the beginning.

Now, the concept and the syllogism on this footing become mere aspects of judgment. The judgment is the radical form of thought, and is the activity which develops the object world for us. This view of the nature of the judgment was no doubt retarded by the language used by Aristotle. I will not dwell on that because you will find an admirable account of it in an article* written by the late Mr T. H. Green, in which he deals with the Aristotelian Logic in its relation to the rest of Aristotle's Philosophy. He shows that Aristotle concerned himself in his Logic with universals in the form of classes, with wholes of extension, and that formal Logic persisted in this view, with the result that the revolt of Bacon against formal Logic became inevitable. Even Kant thought that the old formal Logic was final, and had made no progress since the days of Aristotle; for even he believed the Aristotelian forms to represent exhaustively the categories of conception.

I have dwelt in this Lecture upon the tenden-

* T. H. Green, "Philosophy of Aristotle," *North British Review* for September, 1866. Reprinted in his collected works.

cies of recent Psychology and Logic, because they illustrate in yet another form the single thought which I have been trying to set before you. These sciences, although not properly metaphysical, have the closest bearing on Metaphysics. They belong to the borderland of the region in which we have to seek for Reality; and they point to a path which, when followed, leads into that region. They leave the student with the conviction that neither in mere reflection nor in mere feeling is the ultimately Real to be found. They, like other forms of inquiry, point to a different conception of the Universe, the conception of it as, in final analysis, the unique Individual that ultimately discloses itself as the totality of Experience, or as all-embracing Mind, according as it is looked at from one side or the other. If we take it from the standpoint of Logic, we have it on the one side, but put before us as the subject of judgment, the "this" or "that" which the judgment determines and qualifies, with the result that it is presented in reflection as the identically same individual, but under new universals. If we take it from the standpoint of Psychology, we get it as the self, which, when we have removed the artificial scaffolding of "presentationism," erected by ourselves for convenience of treatment, discloses the totality of existence, and nothing short of this, as its content. Whichever, then, of these several paths we elect to follow, we find that they all lead to

the same point, to the Individual which, more than two thousand years ago, Aristotle declared to be the ultimate and irresoluble nature of Reality. This view, once accepted and steadily adhered to, makes plain the final stages of the pathway. If the student will but adhere to it and keep the broad lesson which it unfolds firmly in his mind, he will have little difficulty in following its development in the history of thought. He will see and understand how the great thinkers of more recent times have advanced each of them a fresh stage along the road which the Greeks mapped out for them, have hesitated, have stopped, have even, under the influence of metaphor, strayed, but have not the less improved the way for those who came after them. He will see and understand how in our own day the tendency of philosophic reflection, whether critical or constructive, is steady in the same direction. The history of Philosophy will be for him who so reads it no longer a tale of miserable failure in the search after truth, but a record of genuine progress towards more adequate definition.

I have now got to the end of the first part of this series of Lectures. I have endeavoured to show in it how much the organisation of the world as it seems, is due to the ends or purposes which we have in our minds. I shall pass in my next set of Lectures to the special sciences, and I shall show that the special

sciences transform the world of reality for their own purposes, in virtue of a yet more abstract set of conceptions than those of the plain man. But Science gains greatly in so doing. It gets rid of the Here and the Now. It takes the world from a standpoint which is independent of the individual, and it amplifies and extends the abstract world which it so creates, far beyond the limits within which the senses of the individual are confined. It places the same abstract universe before each individual, whatever may be his particular circumstances. This is again an illustration of the great truth that in ends and purposes, and not in causes, is to be found the shaping of the world as it seems.

And now we have traversed the first stages of the pathway to Reality. We have seen something of how Knowing and Being stand to one another. The everyday world no longer confronts intelligence as something remote from its moulding power. The Cosmos begins to disclose itself as the manifestation of mind and the revelation of purpose.

But in front of us lies a valley which to him who seeks for God has but too often proved a very Valley of Humiliation. We have to descend from the open ground of the plain man to the more obscure and difficult region where the sciences reign. There we shall find ourselves confronted with serious hindrances, and the path barred by notions of reality which present more difficulties

than any we have yet encountered; such notions as atoms, energy, force, molecules, the very hob-goblins of materialistic method.

Yet we need not lose heart. For if we grasp firmly the sharp weapon of criticism with which we have put to rout the metaphors of the plain man, we may find it a weapon with which we can dispel as easily the spectral figures that haunt the traveller over the ground that lies in front.

In the next part of this first series of Lectures, I shall invite your attention to the categories of the Sciences.

BOOK II

THE CRITICISM OF CATEGORIES

LECTURE I

In the first part of this course of Lectures I endeavoured to work out a view of the ultimate nature of Reality which would afford firm ground upon which to tread in following the difficult pathway that lies before us. It is one of the chief recommendations of that view that it is by no means novel. We find traces of it in Heraclitus of Ephesus; further traces in the Socratic questionings; a yet further development in the Ideas of Plato; and something hardly to be distinguished from the most modern form of the doctrine in the teaching of Aristotle about Metaphysics and Psychology. When Hegel first taught the world how to read the Aristotelian Philosophy, he rendered a great service to men; for he showed them that the history of Philosophy is not a vain rejection of hypothesis after hypothesis, but is, in truth, the working out, with the fresh materials which the Time-Spirit brings with it, of a single solution of a single great problem.

The main feature of the answer which Aristotle and Hegel alike gave to the question as to the ultimate nature of Reality was, that we can never

get behind the form of Individuality, that the ultimately real is an experience in an individual form which contains nothing but what is individual —a form in which the particulars of sense can no more be divorced from the universals of thought than can the universals of thought have any subsistence except as setting, fixing, and giving their meaning and existence to these vanishing particulars. It is owing to the poverty of language, which is always derived from the familiar standpoints of everyday life at which this kind of problem does not arise, that we have not ready to hand words adequate to express the proper relationships and conceptions to which this doctrine points, and that the metaphors and analogies into which we slip are thoroughly misleading. At the standpoint, for instance, of everyday life, for the purposes of daily practice and social intercourse, we speak and act as though the things of experience were permanent and had a fixed nature; whereas, as Wordsworth points out in the last of his sonnets to the River Duddon, the form alone is unchanging:

> "For, backward, Duddon! as I cast my eyes,
> I see what was, and is, and will abide;
> Still glides the Stream, and shall for ever glide;
> The Form remains, the Function never dies."

When we let thought turn in upon its own operations and watch its own movement, we find that the individuals of experience are no more fixed and permanent than the water of the flowing

Duddon. It is only in knowledge, and particularly by reason of the purposes or ends which have to be fulfilled in organised knowledge, that the external world gets its fixity of aspect. It is only relatively that the individual is conceived as a hard-and-fast entity. When we think out its nature, even at our everyday standpoint, we discover that it is our reflection that has introduced orderliness and definiteness into what at another standpoint would be but a confused blur. Between the organism, for instance, ever taking in and giving out in the metabolism of its material, and the environment which surrounds it, we could, if we looked minutely enough, discover no hard-and-fast line.

Again, the *tempo* of the sharpest explosion may seem, for anything we know to the contrary, a long time to a gnat, while the explosion appears instantaneous to the less discriminating senses of a giant. The individual phenomenon seems, in short, to be rescued in the general flux of experience through the categories or conceptions which we bring to bear in developing knowledge—a knowledge which therefore depends for its form on the ends or purposes which determine the choice of these categories. This is true not only in everyday life, where what we call the same experience presents different aspects to different individuals, but still more strikingly so in different kinds of knowledge. In mathematics, for example, we abstract under a set of conceptions far sur-

passing in definiteness any which we apply in daily life, where the rough standards of common-sense suffice. Nowhere in our daily experience do we witness a perfect square or a perfect circle. Yet, the mathematician, by abstracting from every other property, has definite conceptions of these upon which he bases his science. It is plain, therefore, that since experience must present different aspects according to the difference between the categories employed, a critical examination of these categories must be an essential part in any complete theory of knowledge. Such a criticism is required, for, if it does not exist, the world of imagination will soon teem with fallacies and spectral illusions, such as those forced on us when we look through the stereoscope and think that we see things in three dimensions, when we are only under the influence of an incomplete view of the conditions of our knowledge. The unconsciousness of the limitations of that knowledge, and of the relativity of our notions and purposes, gives rise to the view that what is in truth only a mere aspect of reality is the manifestation of its exclusive and ultimate nature. In this way the working ideas of everyday life become hypostatised, and we slip into talking of God as though He could be a cause in the physical sense, or into speaking of atoms and forces as if they were real individuals, which we could envisage. Thus there come upon us abstractions, arising out of the application of the working common-sense stand-

point to speculative problems, where it has no application. The ideas of this standpoint are hypostatised, and the very habits of thought which are such useful guides in our rough-and-ready intercourse with fellow human beings who have in the main like social purposes with ourselves, give rise to superstitions of common-sense. These superstitions tend to destroy the reality of the rich concrete world, by letting some of its aspects dominate and even negative the other aspects. And yet for us, remaining simply at our ordinary point of view, these various aspects of that world as it seems have an equal title to the appellation of real.

Such a criticism is essential in Science as well as in Philosophy, for the Sciences also operate by means of abstraction under sets of categories which are peculiar to each of them, and by their use of which the various Sciences are distinguished and ought to be classified. By means of these categories each Science strips the individual (for instance, the triangle or the circle, or what the plain man would call a triangle or a circle) of the immediacy in which many points of view uncritically converge. The mathematician abstracts, in order to get clear knowledge, by concentrating his attention upon relationships, which by this means he presents to himself with great distinctness. He transcends the immediacy of his surroundings, the limitations of his physical body and his organs of sense, and is able to traverse the whole field of

space and time, as, for instance, in the science of Astronomy. What he presents to himself as the result of his reasoning, a result come to through the mediation of abstract knowledge, is again an individual, but an individual hypostatised by imagination upon an abstract foundation. He cannot guide us to any aspects of reality that lie outside the limits of his own science, but, by separating off these aspects in abstraction, he can, as we shall see hereafter, enormously extend our knowledge.

Let us turn then to a thinking consideration of the methods of Science. First of all, we must look at the nature of the field in which the Sciences operate, before we enter upon a detailed criticism of their respective categories. The physical Sciences deal with the realm of nature. By this realm we mean the world as it appears in space, as well as in time, that aspect of reality which is most foreign to abstract thought. Yet even this aspect is not really foreign, for the world in space and time turns out—like every other individual in experience—to be a self-dissolving and self-disintegrating conception, when the light of reflection is turned in upon it. This topic we shall have to pursue further on. At present a simple illustration of how little meaning even an ordinary thing in space has apart from the abstract universals of reflection, will suffice. What is it that I recognise when I look at a tree? The tree is a self-identical individual and remains so amid all its changes of foliage, and notwith-

standing the alterations of substance which are constantly taking place in it. The leading idea which we have about it, the idea which dominates us, is that of identity in all these differences, not only identity of form and life in the metabolism of its material, but in its distinction from the other things which surround it. Its leaves may fall, its branches may be cut off, but yet it remains this tree, different from the others which are near it. Thus we have identity and difference, conceptions which belong to the universals of thought, playing a vital part in giving us our knowledge of the tree. Again, the tree means for us the union of experiences through totally different senses—colour, touch, taste, smell, resistance, muscular effort, etc.—and this union is not perceived through sense, but is a concept of reflection, again a universal. In the supposed hard-and-fast image of the tree which we have really thus fixed through the universals of thought, there is an infinity of relations and predicates which we have incorporated in the "This" of the tree, and they have meaning only as related and harmonised in reflection. An infant does not know what a tree is and cannot distinguish it; and in a universe which was known only to a mind at the stage of that of an infant, the existence of a tree would have no meaning.

Now this is true of the whole of nature, this union of a multiplicity of aspects in reflection. We do not, in knowledge at our daily standpoint, separate them. It is only by abstraction for the

purposes, say, of the mathematician, that we confine ourselves to the relations of space; and these relations of space, excepting when hypostatised by abstraction, lie in our perception alongside of other relations with which for the purposes of daily life they are in no conflict. The tree, for example, is a living organism following a course of development, determined by the quasi-purposive manifestation of the whole in the parts in which it exists. The tree, in other words, is a life, and the relation of the whole to its parts in this life is not a mechanical relation, and cannot be expressed as spatial. Hence, when we speak of the tree as a thing in space, we really shut out, for the moment, our view of it as a living whole, and by abstraction regard it from another standpoint, which comes into our language about it in daily life—the standpoint of a mechanical arrangement occupying a part of space, a standpoint, moreover, which cannot either be reduced to that of life, or permit of life being expressed in its own terms. If, therefore, the world of nature were strictly limited to what can be presented as spatial, it would shut out all life and organisation. But in the case even of things which are more naturally looked at as arrangements which do not transcend the merely spatial view—such as a rock or a machine, although their parts are naturally and properly conceived in the relationship of complete externality and mutual exclusiveness, they have other aspects — beauty, utility, and so on—aspects which have no meaning

for the mathematician, and very little for the physicist. When we look at nature in the popular sense of the word it seems, as soon as we try to divorce it from the manifold aspects which it receives through the different kinds of reflection, to be a mere abstraction, the creation of reflection working under categories which exclude, or at least for the moment shut out of consciousness, the relationship to the subject for which it is. The system of nature seems to start from a point which is itself a vanishing point, the contrast of the not-self with the self as separated from it. Yet when we ask what we mean by such a self, we find that in everyday parlance we vaguely indicate the sentient body with its organs — a meaning which partly abolishes itself as soon as it is realised that this sentient body is itself an object in nature. Thus we find that we are dealing in such language with abstractions, with an individual appearance which can only be sustained through the very construction which we wish to eliminate. The conception of nature is part of the conception of a system which emerges on reflection, and things are in nature only in so far as they belong to this system. When scrutinised, the standpoint of nature turns out to be an abstract standpoint, the character of which is externality — externality to the mind which perceives it, and, at first sight at any rate, externality of its own parts each to the other. In the language of the German metaphysicians, and for that matter

of the Greeks, it discloses itself as the Other from which thought, as hypostatised in abstraction, is distinguished, and to which thought, similarly dealt with in abstraction, is itself related only as the Other. The divorce is only for and through reflection; in the real individual nature of mind there is no such divorce inherent. It is a distinction which emerges at a late stage in knowledge. In the early life of the soul there is no distinction drawn between nature and the self. It comes only with the development of reasoning, and as part of the general intellectual system.

We may say that nature stands to thought as the particular stands to the universal. It is within the individuality of spirit that the distinction falls, and the two may be said to be abstract ways of regarding what are the moments in this individuality. As we have already seen, our knowledge as human beings is knowledge from the standpoint of a particular self, conscious of itself as finite. We are, as it were, shut up within a closed circle of self-conscious knowledge; the self emerges only as contrasted with the not-self. It is true that under analysis these distinctions turn out not to be absolute, but in our ordinary proceedings we reflect on the basis and assumption of their validity, and for the purposes of our social intercourse with each other, we regard ourselves also from the standpoint of the one among the many, and, in this sense, as ourselves falling within the sphere of externality. We can by means of

abstract thought conceive an absolute intelligence with which it would be otherwise; that is to say, an intelligence at a higher plane than ours, and it may be that our own intelligence, as viewed in daily practice, has meaning only as a stage towards or a degree in such a mind. It may be that when our plane of intelligence is thought out it presupposes mind so conceived as its beginning, end, and ultimate reality. Yet in the world as it seems we accept the lower plane of knowledge as our working basis, and as the degree of reality with which we are concerned.

In the light of these remarks let us take an illustration of the procedure of one of those sciences which, in the next three Lectures, we shall examine in more detail. What does a physicist do when he has to investigate, say, an explosion? His procedure is to inquire into its cause. He begins by talking of this as though it were a mere antecedent or outside event, for example, the setting of a match to gunpowder. But reflection carries him much further as he proceeds towards scientific knowledge. He begins by reasoning and experiment to get a clear conception before his mind of the composition of the gunpowder; of the structure of the molecules containing the atoms of oxygen which are held in a loose grasp by the atoms of nitrogen; of the proximity of the carbon which is required for the production of the carbonic oxide and dioxide; and of the presence of the sulphur, which is a useful adjunct in the

production of the chemical change. He then realises the necessity of an infinity of other conditions, the dryness which is essential to enable the separate chemical substances to get at each other, and many facts equally important. In the end he sees that the setting of the match was really only one out of an inexhaustible multitude of conditions, and that the reason why an unreflecting person—such as, say, the schoolboy who put the light to the powder—singles it out and names it as the cause, is merely because that schoolboy is guided in his reflections by a certain purpose or point of view. What gives to the setting of the lighted match to the powder its importance, is the notion that it is a freely done act, for which somebody is responsible and may be punished. The reality, the explosion, the effect, turns out to be the sum of an infinity of conditions. More than this, if you had the whole of the conditions, including the passing of the potential energy into kinetic energy, you would find that the explosion was not distinguishable in time from the aggregate of these conditions, assuming that the aggregate of these conditions could be presented together in an individual form. Thus the physicist, the man of science, whose object is clear knowledge, who seeks to isolate the underlying relations of things by means of conceptions which will enable him to put aside everything that is immaterial, and to reason on the basis of what alone can advance knowledge beyond the mere immediacy of experi-

ence through the senses, can pass away from the notion of cause. Cause turns out to be a self-abolishing and vanishing conception. The cause, when thought out, is not really distinguishable from the effect, which is just the aggregate of its conditions viewed from another standpoint. The physicist gets as the result of his work, not the mere abstraction called a cause, but a more instructive set of relations which constitute the *law* of the phenomenon. He is now deeper down than the mere appearance. He has got into the region of what logicians call the Essence. The man of science does not stick to the mere facts of things. He believes in laws which are manifest only to reflection; and so nature, in those aspects of it which alone are interesting to the physicist, turns out to depend, not upon her otherness from thought, her exclusion of mind, but upon the capacity of the reflective mind to discover its own universals, to find itself in nature. In this very same nature, which we started by taking to be the immediate presentation of the senses, confronted with which the mind seemed merely passive, we now become aware that reflection is everywhere operative in the characterisation of it. We discover in nature yet higher relations, which take us beyond those of which the pure physicist can alone take cognisance—the relations of life and organisation. It is only for limited purposes and through conceptions which turn out to be self-contradictory and therefore self-abolishing, that the living

organism can be regarded as a thing. In the relation of the whole to the parts as manifesting itself in them and in the quasi-purposive nature of the parts, we reach a relation which is nearer to that of a regiment to the soldiers composing it, or of a state to its citizens acting together for the fulfilment of a common purpose consciously set before their minds, than to the relation of mere externality which we see in the parts of a machine. It is when we hypostatise these different aspects arrived at by abstraction from different standpoints, that we get into such vain controversies as those about Abiogenesis, the reduction of life to mechanism. There is no such continuity in actual experience as enables us to develop the aspects of one standpoint into those of another, without a change of the categories we employ. The tendency to hypostatise, here as elsewhere, has given rise to countless fallacies, and tormented the minds of men with innumerable spectres. The physicist passes away, by means of his group of conceptions, from the seeming disconnected externality to one another of the properties of things, to the essence which underlies their appearance in the form of their law. The biologist in investigating life passes away from the mere appearance of mechanism; and the psychologist, who regards the organism as not merely living, but conscious, passes to a view of things in which consciousness transcends life, just as completely as life transcends the

categories of mechanism. Thus, in the results which the sciences give us from their abstract points of view, the appearances which nature presents seem to us to be degrees of reality. A true Philosophy of Nature does not question the validity of the results won by the various sciences. It simply for its own purposes disentangles and arranges the categories of the various aspects, and by a criticism of these categories—that is to say, by an examination of the limits of their application — gets rid of confused thinking, and as far as it can, of bad metaphysics.

As Hegel says:* "The first thing that has to be established against experimental physics is this, that in it there is much more of thinking than it admits or knows, that it is better than it believes itself to be, or if in physics thinking must be taken as something bad, then, that it is worse than it imagines. Physics and Philosophy of Nature are distinguished from each other, not as observation is distinguished from thinking, but only in the mode and fashion of their thinking; they are each of them a thinking science of nature." In other words, each of the two, Philosophy of Nature as meaning the entirety of the sciences, and Philosophy of Nature as meaning the account which the metaphysician, who is investigating the ultimate nature of Reality, has to give of nature as an appearance within the field of knowledge,

* Hegel, *Natur-Philosophie*, p. 6, 1842 edition.

has a totally different aim. Science proceeds on the basis of its own ends and purposes, the extension of its own kind of inquiry beyond those limits of his immediate surroundings, within which the plain man is restrained. It is true that the knowledge even of the plain man is more or less abstract, that he too hypostatises under conceptions. But he does not abstract to the extent of the man of science, nor is it necessary for him, nor would it be useful to him in the fulfilment of his social ends, to make the distinctions or employ the conceptions of the man of science. In the same way it is not to the purpose of the man of science to make use of the comprehensive categories which are required by him who cannot rest at any stage short of the ultimate nature of things. The knowledge which this last may attain to, will, indeed, if he attains to it, in all probability turn out to be in its own fashion more abstract than that of the man of science, as the knowledge of the man of science is more abstract than that of the plain man. Yet each is necessary for the fulfilment of its own end, and none can fulfil the ends of the others.

It appears to have been a want of clear perception of the real nature of the problem of Philosophy which has led in the past to the violent condemnation of what the Germans call *Natur-Philosophie*. It is perfectly true that under the name of *Natur-Philosophie* there has been given to the world a great deal of what will not bear

scrutiny. The reasons for this are partly to be found in an inadequate conception of the ultimate nature of Reality; but partly also, and not less frequently, in the fact, which people are apt to forget, that those who were endeavouring, even less than a century ago, to work out a view of the system of the different degrees of appearance in nature and of the relations of these degrees to each other and to mind as their foundation, were imperfectly furnished with what to-day, in the twentieth century, we properly regard as indispensable material. When, for example, Hegel wrote the book which made that distinguished physicist, the late Professor Tait, so angry, the principle of the conservation of energy had not yet been discovered; chemistry was in a very imperfect condition; mathematical analysis had not been pushed forward to anything like the point which it has reached in our time; and the great doctrine of biology, evolution, was still in a rudimentary condition. The result was that Hegel, who had to work with such materials as the Time-Spirit furnished to him, could not do more than work out the outlines of a very general view of science as it existed in his day. His *Natur-Philosophie* is no doubt open to criticism by the men of science of our day, but if anyone were to undertake a similar task now, his work would be found to be just as defective if looked at in the light of the knowledge of three or four generations later. Just because science changes, and changes

by way of advance more rapid and more certain than that in any other department of knowledge, the great principle that the ultimate view of things can only be expressed in the language of a particular period is more obviously true here than at any other point. Shakespeare has spoken to the world in language that is true for all time. He deals with the individual images of sense, and these remain unchanged, though his art heightens their significance. But men like Newton and Darwin fight only the battles of their own period, and, though their figures will stand out prominent in the Walhalla of the heroes of the spiritual world, their work becomes in large measure absorbed and superseded, as more adequate conceptions take the place of those which their abstract reflection has elaborated.

Then again, pausing for the moment to speak of Hegel, we have to bear in mind that we never got from Hegel's own pen any completed account of his view of *Natur-Philosophie*. All that we have is a collection of fragments, consisting at the best of the *Hefte*, or short paragraphs, written by himself after the fashion of a German professor, to form the text, each of them, for the lecture of a day, and the notes taken down by the students who heard his oral discourses upon these texts. As the editor of his *Natur-Philosophie*, Michelet, tells us, he lectured no less than eight times upon this subject, between the year 1804 and the year 1830, in different forms, in which the arrange-

ment and substance of the lectures varied. We have not, for the most part, Hegel's own connected discourses, or even the context of many of his expressions. He died suddenly, of cholera, in the end of 1831, before he had time to write out or even edit these lectures in their final form. Had he lived, he might have avoided many mistakes of detail, which he shared with some of the prominent men of science of his time. For example, at page 304 of the 1842 edition of the *Natur-Philosophie*, he, like many others at that time, follows Goethe's theory of colour in preference to that of Newton. The result is that in dealing with a topic where form is very much affected by substance, he gives us conclusions which are of little help, even for philosophical purposes, in a region where exact and accurate knowledge of true scientific principle is essential. Indeed, as I have already suggested to you, in that part of a system of the science of ultimate Reality which is concerned with the criticism of the categories of science, the work has constantly to be done over again. The contribution which reflection under abstract categories has made to the science of the time, and the investigation of the nature and limits of these categories, can only be adequately estimated and taken in hand by those who have full knowledge of the results attained by the people who are competent judges of results, the men of science themselves. This is the reason

why I approach the consideration of the topics which I shall have to try to develop in the three following Lectures, with unfeigned diffidence. I feel that I cannot be sure that, as an outsider, I have correctly appreciated the meaning of the statements of the experts. Practical life has taught me that there is no temptation so insidious as the temptation of the outsider to yield lightly to the mistaken belief that he understands where he does not understand. And yet, just as the plain person has to do the best he can in the practical business of life with such knowledge as he can get, so we who wish to find out the truth about reality must do the best we can with such light as we can obtain. We must crave the indulgence of those who know better if we make mistakes in our estimates of their work, and we must beg them to believe that it is no want of humility or of sense of the limitations of our knowledge, but the conviction of the necessity of trying to get clear notions about the meaning of the universe as a whole, that has led us to pursue the pathway towards reality through so difficult and obscure a valley. On one side of the path through that valley lies the quagmire of error in estimating the work of science; on the other, the ditch of acquiescence in uncritical metaphor. We must do our best to keep in the centre.

LECTURE II

"If, Theætetus, you have a wish to have any more embryo thoughts, you will be all the better for the present investigation, and, if not, you will be soberer and humbler and gentler to other men, not fancying that you know what you do not know." We may take to ourselves the words which Plato makes Socrates address to his pupil after leading him to a place very like that we have now reached on the Pathway to Reality. Even if we were to get no further, and to give up the goal of clear knowledge as unattainable, we should have gained. For we have learned that the old uncritical attitude was all wrong, and that we remained so long in it only because of a happy ignorance of its dangers. Looking backwards, we can see that the searcher after truth has escaped from a region where he ran the risk at every step in his search of being overpowered by some evil metaphor. But now he has learned to be on his guard against those who approach him with such suggestions as that mind is a thing, or man a machine, or God a physical cause. He has been

armed with a weapon of defence, the power to criticise his categories, with which he can now cut such dangerous figments of confused thinking into pieces. If he will keep this always in his hand, he may continue to descend into the valley that lies in front, without fear of the spectres that will throng his path.

Let us take a view of the prospect that lies before us. Experience has turned out to be an ἄπειρον, an indefinite manifold made definite only in so far as it is arranged by reflection under general conceptions, bound together and determined as here and now, then and there, this and that. Science has turned out to be the mode of reflection which, by isolating and confining itself to certain abstract aspects of reality, gets away from the here and the now, and transcends the apparently immediate experience by which in self-consciousness we find our minds confronted. We have used the word "science," but we have not confined its meaning, as is sometimes done, to what has the balance, the measuring rod, and the chronometer, and these alone, for its ultimate standards. Every branch of human knowledge which, by systematically bringing objects in experience under certain defined abstract conceptions, aims at a better comprehension of the aspects, present and future, of the kind of experience with which it deals, is science in the sense in which the word is here used. The instinct of a dog or a mother is not science, nor is the shrewdness of the common-

sense man. But if there be any general principles upon which the procedure of, say, the moralist, or the artist, can be shown to be founded, these may belong to its domain. What this stage of our journey necessitates is a closer examination of the character of the abstract conceptions which certain of the sciences employ, and of their relations to one another. We have already found in the indications we have discovered of the ultimate nature of reality, that the claim to finality and exclusive domination, with which the prophets of some of these conceptions threaten to block the way, cannot prevail against the pilgrim who keeps ready in his hand that weapon of criticism with which he is furnished. These prophets have taught mankind a great deal that is of the utmost use. They have cleared from the pathway of life the weeds of superstition and of prejudice, which are the outgrowth of unreflecting common opinion. They have vastly extended human knowledge, and may extend it in the future yet more vastly. Even when they have at times magnified their office, and raised terrifying spectres, they have afforded a new subject of interest for those who have no fear, and have faith in the power of human reason. How these spectres came to be raised, it will be our business to try to find out as we encounter them one after another at the various stopping-places where we shall find them. Our task will involve some sort of attempt at a general view of the various sciences, and the marking out on our

map of the regions which they have appropriated and rule over.

Let us begin by trying to get a clear notion of what is the most general aspect of things with which Science concerns itself, and of how it goes to work. We will begin with a very simple example. I will suppose that I am standing on a lawn looking at the view. I see in the distance a railway signal-box, and further along the line, which runs across the field of my view, another signal-box. I want to find out the distance of the one box from the other. I could, by taking a long time and great deal of trouble, go to the railway with the measuring rod which I have by me, and measure the distance. But the little instrument lying by my side which can be used for measuring angles, enables me to do better. I take my rod, and mark off a distance of, say, sixty yards along the lawn, between two points on it. I then, from one of these points, measure the angle which this line makes with the straight line got by looking through the instrument at the box. Afterwards, I go to the other point on the lawn, and measure the angle of the straight line got by looking at the box from that point. I have now got a triangle, and I know the measurement of the base and of the angles at the base. A simple calculation gives me the lengths of the sides. I next ascertain by similar observations and calculation the distances to the other signal-box. Then, knowing the length of a straight line drawn from

one of my points to each of the boxes, I obtain, by subtraction of the already observed angles, the angle which these lines, taken from that point to the two boxes, make with each other. I have now got the measurement of each of the two sides of a triangle, and the measurement of the angle which they enclose. The base is the very distance between the boxes that I wanted, and a simple mathematical calculation gives it to me. In this way abstract reflection on the materials afforded by two or three easy measurements, made without leaving the lawn, has enabled me to transcend the immediacy of the surroundings which confront me, and to anticipate the result of what would have been my experience had I journeyed to the distant railway and measured it piece by piece.

But what price have I paid for the power thus to annihilate the limitations of immediate experience? From how much of the riches of nature have I been forced to avert my eyes? Let us ask what it was that we measured. Not anything that we can see or feel. Not the length of any actual roads, or strings, or bullet flights, for none of these would ever be precisely straight. We have shut out from consideration the unevenness of the ground, the curvature of the earth's surface, the deflection of rays of light by the atmosphere, and a countless multitude of other things which make a great gulf between what comes into actual experience and mathematically straight lines. We have put before our minds

an ideal construction, which can never be a real object of perception, a triangle conceived as made up of the absolutely shortest distances from point to point, with sides that have neither breadth nor depth, but are pure measures of the extent to which these points must be thought of as outside and away from each other. Such a presentation of points and their distances, and the angles of these distances, is one which thought can only make through a special kind of abstraction, and is no object to be found in actual experience. Yet it is a very valuable presentation of thought. It does not guide us to real things, but it does guide us to aspects which real things always present when we regard them under the categories of this kind of abstraction. In our social intercourse, language, as we have seen, expresses aspects such as these, and is found to be a sufficient means for the description of our individual experiences. The knowledge and recording of these aspects enable us to predict how the aspects of other future and remote experiences will be found to present themselves when reflected on. The intervening life, the beauty of the scenery, the details of the landscape, all these we have for the moment blotted out, and we pay this price for what we get in return, far clearer and more definite knowledge than any which so-called passive observation through the senses can furnish to us, knowledge which teaches us to make more of even such present observation than we

otherwise could. Truly a remarkable instance this of the wonderful power of thought to overcome the foreignness of nature! Even if we had gone to the railway and measured with our rod, we should have gained no greater victory, nor got any substantially more exact result. We should indeed have found that a truly exact ascertainment of the facts was impracticable, because in that case, just as in the former one, it was only in our conception of them that there were exact facts to ascertain. We proposed, in the loose language which for everyday purposes is sufficient, to measure from signal-box to signal-box. We spoke as if these were two definite points which our perceptions would disclose to us when we went to them. But what is the real truth? The signal-box is a wooden structure twelve feet odd in breadth. To what point in it does the supposed demand for adequate and exact knowledge make it proper that we should measure? Here is a new difficulty. It is only for the mathematician that a point — position without length, breadth, or depth—exists. It is only from a different, but also limited and abstract, point of view, that the signal-box itself has any meaning. Mathematically speaking, it has no actual nearest edge to which we can measure. Even to the naked eye, that edge is rough and uneven. To the microscope, it is yet more so. The wood is always, even on the stillest day, parting with its particles; and if we considered closely enough, it would be

impossible to say whether a particular loose particle, itself far short of being for the mathematician a definite point, belonged to the box, or had ceased to be within its edge. It is only from the point of view of practice, and special practice, that there is any distinction between the box and its surroundings. For the practice of the horse which shies at it, or even the baby that looks at it, there might be a wrong distinction, or none at all. For the highly developed reflection of the person who knows what a railway is, or what carpentering is, it exists. But that means that the distinction is derivative and secondary, the creature of reflection, hypostatised into a reality only as the outcome of selective attention from a special standpoint. What, apart from thought, would be an empty and indefinite manifold is worked up by thought into a part of the presentation of a real world. But even this real world here again turns out to be real only through a special phase of reflective activity. The theory of the senses as windows through which the mind looks, breaks down once more. If the mathematician's point turns out to be a construction of thought, so does the railwayman's signal-box. So does the individual observer himself. They are all figments of thought, whether they be the objects of the most active or the most passive reflection. Reality will be found to lie at least as much in the universals of thought as in the particulars of sense,

whether the object be considered from the standpoint of the observer or of the observed.

These considerations seem to throw some light on what the science of Mathematics really is, and on the extent as well as the limitations of its claims. Excepting as the creature of reflection, there is no world which can be adequately described in the language of geometry and arithmetic. The axioms and figures of Euclid are legitimately to be treated as of real validity, only if we are confining ourselves to certain conceptions in the business of bringing definiteness into the manifold immediacy that confronts us. If we so confine ourselves they are legitimate modes of expression, as legitimate as those which obtain in other branches of knowledge which employ different conceptions. It is only by blotting out for the moment the rest of the phases of experience and confining ourselves to particular categories, that our experience can be raised into clear knowledge. Here, as elsewhere, the saying of Goethe is true, that, "he who would accomplish anything must limit himself."

Legitimate as they are, the conceptions of the geometer are not, even from a mathematical point of view, final resting-places. They indicate relations in space and time, but our notions of space and time are not always the same. The physicist, for example, when he talks of these, has images in his mind different from those of the mathematician. He thinks of them, not as mere

forms or relations of externality, as does the mathematician, but as fields in which forces operate, and which are to be conceived as thereby filled. He regards Time and Space as the stage on which what occupies them plays its part, as vortex rings, it may be, in a frictionless physical medium. Such a medium seems to give him a resting-place for his pictorial imagination in the midst of a sea of abstractions. Space means a definite space filled with such a content. But for the mathematician this meaning has to be put aside. *His* space and time are yet more abstract, and even more remote from what is discernible by the eye. They are abstractions as pure as he can make them. The senses cannot isolate pure outness or pure succession. In everyday life we talk as if they could. "It is three miles to London." Here we do not really mean to be exact, and it is not any such loose description of experience that the mathematician aims at. For him, the assertion of such a distance would mean a straight line composed of so many units of distance. But he knows, or ought to know, that he is not dealing with a real thing. If his assertion meant that such definiteness is to be actually experienced in the manifold immediacy which confronts him, he would find himself at once in difficulties to which attention has already been drawn in the illustration of the signal-box. It is only at the cost of eliminating the bulk of what makes it real for us, what gives it its individual form, that experi-

ence can be represented in mathematical forms. When we are reasoning about such forms, we are dealing with thoughts and not with what, in everyday parlance, we mean by things. It is not sight or touch that tells us that figures which coincide in space with the same figure, coincide with one another. Of a perfect coincidence, our senses cannot tell us. They can furnish the proof of no axiom of geometry. It is not for our senses that the world is an aggregate of self-subsisting parts, possessing independent reality. It is only for thought, and as relations in thought, that these parts exist. Language leaves out of account that being made what it is through reflection which is of the essence of reality, and speaks as though the object were exhaustively defined apart from this relationship. That is why language seems to have been inaccurate as soon as, even in common life, we pass to another point of view. "Nothing," said the Sophists, "is true, for its opposite is always true." "Nothing," said Heraclitus, "is, for everything is in a state of becoming."

"Nur scheinbar," wrote Goethe, "steht's Momente still."
"Das Ewige regt sich fort in allen;"
"Denn Alles muss in Nichts zerfallen,"
"Wenn es im Sein beharren will."

What is characteristic of the speech of humanity at large is characteristic also of that of the most profound mathematician. We cannot, any of us, from whatever standpoint, resolve the immediacy which confronts us into the universals of thought.

When we have tried our best to do so, we find that we are always setting these universals up again in a pictorial guise, as individuals, and as something else than they are meant to be. The pure space of the mathematician he talks of as a thing, and tells us to draw a straight line in it, regardless of the fact that if so pictured it ceases to be the pure space in which alone he dare assume that his axioms will be self-evidently true. The physicist with his atom, the biologist with his self-conserving organism, and the psychologist with his subject introspectively made object, does the same. Each hypostatises into an individual of experience what is really an abstraction. This is why there is an apparent though no real contradiction in mathematical science. Its subject is externality, the aspect of the world which is disengaged when the relations of things, as outside each other in space and time, are brought by reflection into clear consciousness by means of a set of categories of which magnitude and number are examples. We can estimate the cost of building a house by calculating the number of bricks required to build it. In doing so we make use of the conception of quantity as discrete, and properly to be exhibited as addition of finite parts. But there is quite another aspect of quantity, upon which is founded quite a different side of mathematics, which treats quantity as continuous. Now, if the view of reality which has guided us thus far be right, there are not two sorts of quantity, existing side by side, but distinct in

experience, like red and yellow apples, but two aspects of one and the same fundamental relationship. The understanding of this would save many a student from confusion. To try to teach him the Calculus without explaining that it does not really contradict the aspect of quantity that has become familiar to him, but simply deals with quantity under another aspect, is like trying to show him how to waltz without first teaching him to count the time of the steps. Most of the text-books give no warning, but go on as if the writer was still occupied with the discrete side, whereas in truth it has been put away. This is how an American writer, who has seen the difficulty clearly, describes the state of mind of the unhappy student when he begins the Infinitesimal Calculus. "He finds himself required to ignore the principles and axioms that have hitherto guided his studies, and sustained his convictions, and to receive instead a set of notions that are utterly repugnant to all his preconceived ideas of truth. When he is told that one quantity may be added to another without increasing it, or subtracted from another without diminishing it; that one quantity may be infinitely small, and another infinitely smaller still, and so on *ad infinitum;* that a quantity may be so small that it cannot be divided, and yet may contain another an indefinite and even an infinite number of times; that Zero is not always nothing, but may not only be something or nothing, as occasion may require, but may be both at the same time in the same

equation, it is not surprising that he should become bewildered and disheartened." . . . "To clear the way for a logical and rational consideration of the subject, we must begin with the fundamental idea of the conditions under which quantity may exist. We must, for the purposes of the Calculus, consider it not only as capable of being diminished, but also as being actually in a state of change. It must (so to speak) be *vitalised* so that it shall be endowed with *tendencies* to change its value, and the rate and direction of these tendencies will be found to constitute the groundwork of the whole system. The differential Calculus is the science of rates, and its peculiar subject is quantity in a state of change." *

Once upon a time there was a very bitter controversy as to the respective merits of Newton and Leibnitz, in the discovery and elaboration of the infinitesimal method. Much of the dispute was due to the use of language appropriate only to the discrete aspects of quantity for the purpose of describing it when regarded as continuous. Newton, at all events, saw very clearly that what he had to do was to conceive quantity as continuous. Thus he treated of geometrical magnitudes as springing from continuous motion, the line as arising from the motion of a point, the surface as generated by the motion of a line, and the solid by that of a surface. He shows

* Buckingham, *Elements of the Differential and Integral Calculus*. Chicago, 1881. Preface.

that if we conceive a point as moving along a curve which is referred to co-ordinate axes, the velocity of the moving point can be resolved into two velocities, one parallel to the axis of X, the other to that of Y. These velocities he calls the "fluxions" of X and Y respectively. Reversing the process, he calls the arc the fluent of the velocity with which it is described, and the abscissa the fluent of the component velocity parallel to OX. In this, the fundamental conception of his method, he is dealing with what are essentially continuous aspects of space and time, and is abstracting under what was in his age a novel set of conceptions. The difference between Newton and Leibnitz appears to have been that while the former regarded his continuous quantity as in a state of continuous growth, the latter regarded that growth as taking place by means of infinitesimal increments. This difference was probably much more important in form than in substance. In the hands of both of these thinkers, all quantities, except mere constants, are regarded as changing from one value to another by continuous growth. In the hands of both we get a new and powerful way of dealing with quantity. It depends on two new notions. First, that of a rate of change of a function with respect to what is called its independent variable; secondly, that of a fixed magnitude to equality with which we conceive a variable magnitude as approaching indefinitely near, without our ever being able to present the case as one of coinci-

dence. The fixed magnitude is called the limit. The method based on these notions enables us, whether we use the language of Newton or that of Leibnitz, to solve problems which lie beyond the grasp of mathematics on its other side. We can solve, for instance, problems as to the areas produced by points moving in curves. The ascertainment of the limit brings us to something about which ordinary calculations can be made, and a relationship is in this way established between the varying quantity and a fixed one, through which we can measure things that would be otherwise immeasurable. The substance of the method was the same with these great men, and it was the unavoidable inaccuracy of ordinary language, when applied to ideas that are not ordinary, that gave rise to most of the controversy about their work, and divided their commentators into hostile camps.

Mathematics deals with the most abstract of all the relations of reality, and because these relations are the most abstract, they are after a fashion the simplest and most easy for reflection to grasp and reason about. When reduced to the skeleton figures of geometry, space becomes a simple subject of study, and its relations can be described with plainness and precision. We do not really know what we mean when we talk of a straight road between London and Bedford, but most of us think we know what we mean when we talk of a straight line connecting two points. In a sense

we present it to ourselves as an image. We think of a concrete case of a figure of something which has many other properties. It is black, and heavy, and hard. But from the colour, and weight, and resistance, we divert our attention. Its surface is irregular, so that a line drawn on that surface would be crooked. This also we ignore. We thus construct an image which is very indistinct, and corresponds to no general experience. But it is an image, and as such, we have experience of it. Those of the relations of the concrete thing which we want are clearly before our minds, isolated by ignoring the others. In this way the mathematician gets a kind of experience with which he can compare his conceptions, and by which he can test the outcome of his inferences, applying the method of verifying hypotheses which is common to all science. And in his case, if the experience is dim, at least its outlines and relations, just because they are the most abstract, are the simplest and most easy to isolate and apprehend. The result is that the method of mathematics is the most far-reaching of all the methods of science. Its concern is not the individuals of perception, but the general relations of these individuals in space and time, and it is in no way limited by the "here" and "now," which have no meaning for it. It was this unrivalled range of the science of quantity that led the Pythagoreans to take number to be of

the very substance, as well as of the form, of things; in other words, to identify reality with number. But number, like all other relations of quantity, is just one of those general conceptions under which reflection brings the object world of things in space and time. It is the work of mind, but is not the whole of the mind's work. And it soon becomes apparent that quantity, if in one sense the most fruitful, is in another the most barren of the aspects of the object. In it the play of abstraction has removed us the furthest from the concrete richness of immediacy.

We ought not to pass from this topic without noticing that the power of the mind to abstract, by means of mathematical reasoning, has taken it into a region lying beyond even magnitude and measurement. Recent mathematical research has, for example, led to the discovery that we can build up a science of abstract externality from which the notions of magnitude and measurement, essential parts of the geometry of Euclid, are totally excluded. The space with which Euclid deals is the space of our ordinary experience with its three dimensions. It is assumed to be always the same, so that a straight line is in every sense the shortest distance between two points, and parallel straight lines can never meet in it, as they might do if one of its dimensions had a twist in it. Let us try to get into our heads what is meant by saying that Euclid makes this

assumption, and what difference it may occasion if he does so without warrant.

Suppose a shadow to be thrown on to the surface of a smooth sphere. Suppose next that the shadow could become conscious of its own existence. Being a shadow it would have and take cognisance of but two dimensions of space, length and breadth. But the curvature of the sphere would really constitute a third, in which the shadow had its existence, though it could not know it. For the length and breadth would be length and breadth on a curve of a certain radius. Such a shadow would believe that the straight line along which it was moving could be projected to infinity, unconscious of the fact that the line would come round the sphere to the point from which it had started. Such a shadow would have notions of geometry which would turn out to be erroneous. For, in the first place, certain lines that the shadow would take to be straight lines, would, if produced sufficiently, come round to the point from which they started. Euclid shows that the three angles of a triangle are together equal to two right angles. But to the shadow this would only be true of very small triangles. As the triangles became bigger, the demonstration would be more and more untrue. Now is it not logically quite conceivable that we ourselves, whose faculties preclude us from presenting to our imaginations more than three dimensions, are, like the shadow, deceived, and that we really exist in more? A

writer on spiritualism once pushed this possibility to a comical point when he suggested that to such a shadow as we are considering, a simple loop in a string would appear as a knot and a simple plane figure as a closed box; that the knot could be untied without loosening the ends of the string, and an object put into the box without opening it, by a power that could get off the surface of the sphere and move in a third dimension.

Science can only tell us that the real space in which we exist, and the real time which is based on motion in that space, *may* be quite different from what we take them to be. As a consequence it is quite possible that Euclid may be wrong; that parallel lines may ultimately meet; and that two straight lines may enclose a space. And it may be that a square which coincides with another square in one kind of space, may chance to coincide with a quantitatively different figure when removed to another kind of space, with the result that the axiom which lies at the foundation of quantitative or metrical geometry, that things which are equal to the same thing are equal to one another, ceases to be universally true. The only principle, then, which must remain true however the nature of space may change, will be one from which the notion of quantity has been eliminated, and which depends on distinction of quality alone. We may make a beginning in this direction by simplifying our preliminary *datum* or assumption of fact, and confining it

to this, which we may assume without bringing in the notion of measurement at all, *that we can recognise difference of position.* This we do always assume, because it is of the very essence of that fact of externality which we are to endeavour to treat under categories which do not go beyond it. Thus, if we take a number of points on a line which joins them, we can distinguish them as found in the line on which they lie. Their distance from each other we must put out of account, for this would require the category of measurement for its recognition. It follows that if all that is given is the mere fact of several points on a straight line, they cannot have any different quality from any other points on that line. We have, therefore, in order to construct a geometry apart from measurement, to get further, and to find out how to describe qualities of points and lines and figures which will enable us to distinguish and reason about them without bringing in that notion. This is done by a new and highly abstract branch of mathematical science which is called "Projective Geometry." It takes a point outside the line on which the original set of, say, four points lies, and draws lines from the new outside point, intersecting the original line at the four old points. Now suppose that across the pencil of four new lines so drawn we draw other lines, they will each intersect the four new lines at points which will have a certain relation to the

old points, in virtue of which they can be distinguished and described. In this fashion a qualitative equivalence may be got at which becomes the object of this new geometry, in place of the quantitative equality which was the object of demonstration with Euclid. Space is treated as nothing but a set of qualitative relations. From two points we cannot, without the category of quantity, describe and determine a third, unless that third lies in a different line. But given three points joined by different lines, we can construct figures, such as that referred to, which will enable us to determine descriptively or projectively any number of fresh points, and to distinguish them, and the lines and planes resulting from them, qualitatively.

A science confining itself to such abstract conceptions as does Projective Geometry, may not be an instrument very well adapted for practical application. Its use is to disengage from out of ordinary mathematics certain assumptions which confine the latter, in some, at least, of its branches, to the limited experience with which we are familiar, and which prevent it from being used for the attainment of a still wider reaching knowledge. Its advantage is that its propositions are true, not merely for space of three, but for space of n dimensions. We have stopped to look at it here because it enables us to see very clearly the truth that Science can extend itself only by sacrificing the great bulk of what concrete experience gives

us, and that the more wide reaching are the conceptions of Science, the less do they present us with an adequate description of the concrete reality of experience. Beyond the science of measurement, barren as that turned out to be, we have seen that there lies, in a region yet more barren, a science of mere externality. We had better now pass on from the merely ideal constructions of mathematics, and next consider how far the conceptions of what is called physical science do justice to real things.

Of the conceptions of physical science, it is not easy to pronounce with accuracy what is their broad characteristic. One view is that they are invariably mechanical, and that if they represent actual physical changes at all, they represent them as effected by causes operating from without in space and time. If this be so, their aim must be to present to reflection the manifold of the departments of nature with which they deal, as combinations of the simplest and most homogeneous mechanisms. They must seek to represent the universe as an aggregate of atoms, of which the leading characteristic is that they attract each other from a distance, and so produce such phenomena as that of gravitation, according to a law which is one of the best known of the results of physical science. But such a description is not wholly accurate. Some of the standpoints of the modern physicist are much more abstract, and have little to do with the old-fashioned notions. Indeed, the tendency of the most distinguished

men of science of our time is to try to do without the category of Cause altogether in discussing the phenomena of nature, and, for the purposes of their science, to confine themselves to descriptions of motion. Even when they come to the forces of nature they refuse to look at force in any other aspect than as the direction and rate in and at which change of motion takes place, instead of calling it, what the older physicists and the man in the street call it, the cause of the change. When we consider the motion of a point in space, we are considering a mere abstraction When we pass to the question of what is moved and how, we seem to have got to something real for physics to consider. But the modern physicist sternly sets his face against us. He tells us not only that we know nothing of matter, even in the sense in which Locke spoke of it, as the substance which underlies phenomena, but that his science rejects every definition of it except as "that which can have its motion changed by the application of force. Two bodies are of equal mass if equal forces applied to these bodies produce in equal times equal changes of velocity. This is the only definition of equal masses which can be admitted in modern dynamics, and it is applicable to all material bodies, whatever they may be made of." * When we bear in mind the scientific conception of force just given, we find that matter and energy are, at all events for some

* Maxwell, *Matter and Motion*, p. 40.

of the modern physicists, merely two of the abstractions of one of the most abstract methods by which experience is investigated, and apparently cannot be themselves further reduced. But if physics be defined, as it has been and must be if it is to cover the whole field without leaving huge gaps, as an inquiry into the causes of the changes in the modes or qualities of dead matter, it is a Science which, both in its theories and on its experimental side, will go far beyond such abstract definitions as we have been speaking of. Modern physics is in short a composite science, in which the methods of the mathematician are called largely in aid in dealing with a subject matter which is much more concrete and individual than that of the mathematician proper. We are forced in this new region to go beyond the categories of the mathematician, and to look for causes and effects, do what we will to turn our faces in a different direction. We may try to confine ourselves to mathematical conceptions, but we cannot. Our definitions of force and of mass, of matter and of energy, will turn out to be circular if we do. These conceptions are really fundamental. They make physical science what it is, and cannot be extruded from it. They are, in short, the special categories which lie at its foundation. The failure to realise this fact has made many a good physicist degenerate into a bad metaphysician.

Now, we have already, in the first Book,

asked the question how far the conception of cause and effect, the principle that every change is due to some event anterior to it in time and separate from it in space, is adequate to reality. We saw that while this conception is less abstract than those which mathematics offers, it still can take no account of the bulk of what the world of phenomena appears to be. If we are justified in the hope that we may yet come to believe in the reality of that world as it seems, we shall apparently have to get beyond the category of cause. We will begin, however, as usual, by trying from a concrete example of its application to get a clear notion of how phenomena are dealt with through that category when we abstract under it. If I put a lighted match to gunpowder it explodes, and if I ask someone, to whom I have to justify my conduct, what was the cause, the answer is, "Why you, to be sure, who put the lighted match to the powder." But while for ethical or popular purposes this view may do, it is, as was earlier pointed out, plainly insufficient for any scientific purpose. For if the gunpowder be wet, it will not go off. We must, therefore, ask what, from a scientific standpoint, is the cause. Now Science tells us that gunpowder consists of a mechanical mixture of particles of saltpetre, carbon, and sulphur. The saltpetre contains in its chemical molecules oxygen, in loose combination with nitrogen and potash. When the oxygen is shaken loose from the nitro-

gen and potash, as it is, among other methods, by ignition, it rushes to the carbon, for which it has a strong chemical affinity, and its atoms unite with those of the latter, and form carbonic acid and carbonic oxide gases. These gases, which increase their volume as heat is developed, produce great pressure, so violent that an explosion is the result. Now what was, scientifically speaking, the cause of this explosion? Which one of the conditions, the loose combination in the nitrogen group, the greater affinity of the oxygen for the carbon, the dryness of the mixture which made combustion possible, or what else, are we to pick out and designate as the cause? Plainly it was only in a popular sense that putting the light to the powder was the cause. For the practical purpose of finding who was to blame, it was convenient to fasten on that particular one among a multitude of conditions which were necessary if we were to witness the explosion. But if our contemplations are to be scientific, we may not import outside and irrelevant considerations to guide our choice. The man of science will tell us, that the most accurate answer he can give to the question is, that the cause of the explosion was the liberation of the potential energy stored up in the gunpowder. But this only shows that our selection of the cause varies with our standpoint. We should never let off the man who

applied the match and blew up the house, and arrest the manufacturer of the gunpowder. The notion of cause seems to be, like that of quantity, one by means of which we pick out for some special purpose certain abstract aspects of reality, in order to get a clear view of them. It is always a relative term, and is always loose. There is no such thing as one independent event which precedes the effect, and is for all purposes its cause. The only antecedent we can name which could be so described with any truth, is the entire sum of the conditions, including, in the case of the powder, not only the potential energy and the active force which turned it into kinetic energy, but every other condition the presence of which contributed to the explosion. And then a new difficulty at once arises as to the point at which the cause so understood ceased to be a cause, and the effect began to be an effect. In nature there seems to be nowhere any such line of division between the event and the entire sum of its conditions, though for loose practical purposes it is convenient to ignore one or more of the conditions, and speak as if it were otherwise. The laws of nature seem to exclude the breach in the continuity which would be involved in affirming seriously that the energy which already existed, and which science says can never be either destroyed or increased, ceased to be one thing, and subsequently became another really independent thing. When we try to find

such a breach of continuity, we find ourselves face to face with another conception, that of something which is incapable of diminution or increase, and is indestructible except in form or appearance, the conception of substance. For it becomes plain that all the chemical atoms which make up the gas of the explosion were already in the powder. It is true that their relative positions in space have changed. But that is all that has happened, and the energy which effected the change was likewise there in the powder. In the end we are driven to the conclusion that not only is the cause not a thing nor an event distinguishable in time or space from the effect, but that if we try to define it accurately, we can come to no other result than that it is just the sum of the conditions; in other words, is just the effect itself. Now, of course, the word "cause" has a legitimate use. But that use is a popular and provisional, and not a scientific one. It means an aspect under which, for practical purposes, and in order to get a clear view for some special end, we separate out some one antecedent and lay exclusive stress on it. That is to say, the word imports a mere abstraction, and is wholly inadequate to reality. Here, again, we are confronted with that disintegrating work of reflection, which brings despair to the orthodox upholder of the "room with windows" idea of the perceiving mind.

The obscurity which we have observed in the conception of cause and effect is, of course, well known to the modern physicist. He, indeed, has put the words under a ban, and he refuses to talk in such language. He confines himself at the outside to such phrases as matter and energy. But have we here, any more than in the former terminology, anything beyond an indication of an aspect of phenomena, separated out by abstract reflection, as distinguished from the indication of reality itself? Can we for a moment suppose that the word "matter," to begin with, means a self-subsisting reality, without falling into hopeless difficulties? Let us commence by supposing it to fill space continuously and homogeneously. If it is of this nature, then not only is the conception of bodies as numerically separate impossible, but some of the simplest phenomena cannot be accounted for. How can it be, for instance, that when an electric spark is passed through a mixture of the gases oxygen and hydrogen, they combine to form an enormously diminished volume of water? Space surely cannot be continuously filled with the material of which they consisted. On the other hand, suppose this not to be so! We are then face to face with another difficulty. We have to make clear to ourselves that the action at a distance on each other of the atoms which are in space, is intelligible. Now action through a void interval, at a distance, as a fact which they accept, has been a standing puzzle to physicists

since the days of Newton. Newton himself appears to have thought it to be an ultimate and irresoluble property of the particles of matter, of which no account could be given. And modern physicists have struggled hard, only to find that they can get no further than he did. They cannot accept the first alternative that space has a continuous and homogeneous content. Yet when they are driven to the second, even if they are content to take the atom as something which, in a fashion that is inexplicable, acts at a distance, they are driven to hold that the word atom is itself a mere abstract expression for a centre of force without content or dimensions. In the words of a brilliant modern mathematician:* "We come to see that action at a distance is something ultimate, which we cannot reduce to any simpler conception of the action of substance. It is indeed the final conception of substance in general, for all the mechanical activity of substance consists in action at a distance. That which exercises action at a distance, which we have now allowed to reduce itself to the mere *point* which is sufficient to account for it, ceases to be interesting to us, and action at a distance steps into its place." The old notion of Lucretius and Newton that matter is made up of inelastic and indivisible atoms, is hardly tenable by the modern man of science. If it were true, we should have found, what Science

* Paul du Bois-Reymond, *Ueber die Grundlagen der Erkenntniss in den Exacten Wissenschaften*, 1890, p. 101.

does not disclose, some indication of a limit to the compressibility of matter. For this reason men like Boscovich and Faraday passed to the notion of the so-called atom as no more than a centre from which attractive and repulsive force is exercised. But the question then arises what force is. In popular acceptance what is meant by the word is a subjective experience, the sensation of force. If we try to find a purely objective significance, we find that we have got, not a thing, but the mere name of a measure or relation, the rate at which work is done. It turns out that the notion of a point from which force is exercised, is a convenient mathematical abstraction, but that it does not indicate any conceivably actual experience. Driven by difficulties such as this, physicists have turned to another hypothesis, that which is associated with the name of Lord Kelvin. This is the famous theory of vortex rings, the theory that the atoms into which matter, for the physicist, must be taken to be finally resoluble, consist of portions, rotating as do rings of smoke, of some medium which fills the whole space. If such a medium be conceived as a frictionless fluid, and if it can be conceived that in such a fluid there are everywhere present vortex rings, there results a view of the nature of matter which avoids a good many difficulties. Such a view enables us to understand how it is that every atom of every one element is, so far as the spectroscope can tell us, possessed of the same properties. It would seem

even to lend itself to the mechanical explanation of gravitation which was propounded, nearly a century ago, by Lesage of Geneva. Lesage proved mathematically that gravitation could be accounted for, if it were assumed that, besides ordinary and larger particles of matter, there is an infinitely greater number of smaller ones, which dart about in all directions with immense velocity. When two of the larger particles are placed near each other, the one screens the other from the impact of a number of the smaller particles, and the consequent excess of battering on the outmost sides over that on the inmost, produces a tendency of the particles to approach each other. He showed mathematically that the result of such a process is equivalent to an attraction varying inversely as the square of the distance; in other words, to gravitation.

But even if we adopt this hypothetical explanation of gravitation, and with it the conception of space as filled with larger and smaller vortex rings in a perfectly frictionless and continuous fluid, we do not seem to be any further forward. In the first place, we have no idea what such a fluid means. There is no analogue of it in experience. So far as that experience is concerned, such a medium is, in the literal sense, metaphysical. In the second place, even if we could present some image of it to our mind's eye, we must find ourselves face to face with the old difficulties. In experience we never do reach, and, indeed, we

cannot conceive ourselves as reaching a *ne plus ultra*, an ultimate limit. Everything in experience is and must always be, capable of being viewed as divisible, and further resoluble. Were it not so, the continuity of nature would be broken. Applying this to the conception of a frictionless fluid, continuously occupying space, and not itself further resoluble, we see that it is self-contradictory. As a thing in space, we cannot think of it as compressible, unless it consists of parts; and this, by hypothesis, it cannot be, for otherwise it would not be continuous. But if it be not compressible, how can vortex rings be formed and motion take place in it? These are but illustrations, which might be multiplied indefinitely, of the fact that this theory has only put back one stage further the difficulties which attended the other theories about the ultimate nature of matter. The truth is, that in setting up these conceptions, we have passed beyond the region of what can belong to any possible experience. We are making use, not of concrete facts such as those to which men of science sometimes profess and erroneously profess to confine themselves, but of abstract conceptions which are really metempirical, and whose only justification is that they are the means by which we can shut out all that is irrelevant to the purpose of the moment, and by a process of reasoning get clear knowledge of the structure and characteristics of certain phases of experience, and of their place in the really indivisible whole of

knowledge. Such conceptions correspond to methods of abstraction under certain definite categories, and represent the outcome of those methods. They possess a validity no greater, and a utility no less than the abstract conceptions of mathematics. Most useful they certainly are, for they have helped us, for instance, in astronomy, to a knowledge which far transcends that which is immediate. Yet, if we attribute to them any validity other than that which attaches to the mere figments of abstract thought, and jump to the conclusion that, if we could indefinitely magnify our senses, we should experience real things corresponding to them, we fall into hopeless self-contradiction. Whether we are speaking of matter, or of energy, or of force, or mass, or momentum, or of any of the other great physical conceptions, we are dealing with abstractions reached by employing categories such as cause and substance, to guide our process of reflection. What the categories of quantity, discretion, continuity, and, further back still, of bare externality, have done for us in the region of mathematics, these others have done for us in that of physical science. It is by the categories which each of these sciences employs, that its scope and method, and the limits of its results, are determined. These categories for the time confine him who employs them, with the intensity of concentration that Science requires, to certain phases of the world as it seems, and to certain phases only. Of the others, they, rightly

interpreted, can neither affirm nor deny the reality. For it is inherent in the nature of these categories, as only partial and fragmentary manifestations of the activity of reflection, that they should take no cognisance of these other aspects.

Over the interesting sights which are to be seen in the region through which our pathway is leading us, we must not linger. Our purpose has been merely to find out what sort of claim to forbid our further progress is set up by the various menacing forms which beset the region of Science. Over all the varieties of each species of these forms, it is not an object of our journey to pause. What we wish to find out is, whether they have any title or any real power to prevent us from getting to higher ground beyond the valley of abstraction in which they dwell. For, if we can reach such higher ground, perchance we may have a view of the distant things of which we are in quest, which may enable us to believe them and that world of which they are the highest appearances to be what they seem. But so far, we have only been face to face with the mathematician, with him who would bid us limit ourselves, in our search for the real, to quantity, if not to externality; and with the physicist, who tells us that beyond these lie causes, substances, and the like, but nothing more. We have spoken in friendly language with these captains of a spectre world, for we have understood the immense value of their methods, as aids to human knowledge. It was only when certain of

them sought to bar the path, that we quarrelled. Let us now make a step further, and get acquainted with another master of the method of applying abstraction to the concrete universe.

The methods of the physicist rule out fewer of the phases of nature than do those of the mathematician; the methods of the chemist rule out fewer than do those of the physicist. When the physicist defines matter and energy, in terms which will enable him to use these conceptions in his methods, he knows that he is thinking abstractly, and without reference to any conceivable particular experience. For him the atom is, as we have seen, in the last resort but an ideal point to or from which motion proceeds. He is really, at least in his theoretical as distinguished from his experimental methods, under the domination of mathematical categories. The chemist, on the other hand, does not require to regard the atom so abstractly. For him, at least as he talks, the atom might conceivably be seen, if a microscope powerful enough could be got, and he discourses of atomic weights and affinities in language which suggests that the atom may be a real thing. Modern chemistry has, indeed, passed beyond the idea of elementary substances to that of diverse elementary atoms of which all its substances consist. For it all substances are, in a special sense, composite, and their qualities and differences depend on the fundamental attributes of elementary atoms, or on molecular structure aris-

ing from the chemical union of the various kinds of atoms. Chemistry deals with experience from the point of view of change of substance so conceived. Its main category is the molecule. For the physicist, the molecule, if he used the word, would mean the point of application of the forces which determine the physical state of bodies, the small particle which, for the purpose of considering the action of these forces, may be taken as a unit. For the chemist the molecule has quite a different significance. He thinks of it only as the smallest mass into which a substance can be divided without changing its chemical nature. Take, for example, a piece of sugar. I dissolve it in water. The sugar is now divided up ever so finely, but the imperceptible particles suspended throughout the water are still sugar, and nothing else. Now add to the water sulphuric acid. The solution blackens, and presently there is evolved out of the sugar, charcoal. The sugar has as such ceased to exist. Its constituent elements have become separated, and some of them have gone into combination with some of the constituent elements of the sulphuric acid. We have got a new set of substances. Take, again, water. It can be subdivided almost indefinitely without alteration of its chemical nature. Indeed, no mechanical subdivision of it that we know will change its chemical nature. Just before it bursts, the film of a soap-bubble is less than $\frac{1}{1000000}$ of an inch in thickness. When it is converted

into vapour the water is divided up yet more finely, still without any change of chemical character. By means of heat we can separate the particles of the vapour to an extent which, so far as the senses aided by the finest instruments can tell, is incapable of limit. But we can make a still greater subdivision. If we pass through the water an electric current, bubbles of gas arise round the two poles of the battery. The bubbles which surround the one pole turn out to be quite different from those at the other. For one set of bubbles encloses hydrogen, the other oxygen. Here we have, arising from a new sort of operation, products equivalent in weight to the amount of water that has disappeared, while enormously exceeding it in volume. The chemist tells us that each molecule of the lost water, described, in his abstract terminology, as H_2O, has been resolved into three constituent atoms, two of hydrogen and one of oxygen. This is his atomic theory. Yet valuable as are the atomic theory and the processes based on it, processes which enable him accurately to foretell phenomena of experience, and so to get beyond the immediate, this theory is but a method of regarding nature abstractly, a set of general conceptions through which it is useful to approach the facts. No one has ever seen a molecule: no one has ever seen an atom. They are convenient expressions in which to record chemical changes that cannot be envisaged in space and time. "I wish," writes a distinguished modern chemist, "to

declare my belief that the atomic theory, beautiful and consistent as it appears, is only a temporary expedient for representing the facts of chemistry to the mind. Although, in the present state of the Science, it gives absolutely essential aid both to investigation and study, I have the conviction that it is temporary scaffolding around the imperfect building, which will be removed as soon as its usefulness is passed."* In other words, it is a method which we justify, because it gives us results which we can check with experience, and which fit into the context of what we see and feel. But it is the results which are verifiable, and not the conceptions which form the foundation of the method. And if chemists find any other method, more adequate in the sense of being yet more fruitful in results, they will throw overboard the atomic theory, just as they have thrown overboard the notion of Imponderables; that is, of attenuated forms of matter which could be added to or subtracted from bodies without altering their weight, and which at one time were put forward in all the text-books as the explanation of the phenomena of heat and electricity. It is by means of hypothetical and abstract conceptions that we are able, not to describe what we experience, but to isolate in thought such aspects of it as we wish to bring into clear knowledge, for the purpose of extending that knowledge yet further. The test which we accept of the legitimacy of the conceptions is the

* Cooke, *The New Chemistry*, p. 118.

correctness, as shown by subsequent experience, of the concrete results to which they guide us. The conceptions themselves we cannot and do not seek to verify.

Chemistry deals with the composition and changes of substance. Its leading conception is the atomic theory, and this has led to grouping the so-called elements according to their atomic weight, and affinities, and structure. It deals with topics which, on the face of them, are less remote from what we see and feel in the concrete than those of physics. The latter takes no account of most of the conceptions of chemistry, because they are beside its purpose. By way of contrasting the methods of the physicist and the mathematician with those chemical methods to which we have been referring, it is worth while quoting the description of the field of physical science given by a well-known writer; "That which is properly called Physical Science is the knowledge of relations between natural phenomena and their physical antecedents, as necessary sequences of cause and effect; these relations being investigated by the aid of mathematics—that is, by a method in which processes of reasoning on all questions that can properly be brought under the categories of quantity and space conditions, are rendered perfectly exact, simplified, and made capable of general application to a degree almost inconceivable by the uninitiated, through the use of conventional symbols. There

is no admission for any but a mathematician into this school of Philosophy. But there is a lower department of natural science, most valuable as a precursor and auxiliary, which we may call scientific phenomenology, the office of which is to observe and classify phenomena, and by induction to infer the laws that govern them. As, however, it is unable to determine these laws to be the necessary results of the action of physical forces, they remain merely empirical until the higher science interprets them."* Chemistry is a department of what, in the passage just quoted, is called "scientific phenomenology," differing from experimental physics in its conceptions and hypotheses, but yet akin to it. The fields overlap. Mathematics comes to the aid of chemistry in a much less degree than it does to that of physics. If it is called in by the chemist to render assistance, the assistance is of a comparatively simple kind. Still it is most useful in the application of the atomic theory. When we passed our electric current through the water, mathematics enabled us to calculate the weights of hydrogen and oxygen respectively which were evolved, from the data afforded by the weight of water lost. In this fashion, and in connection with the chemical law of Avogadro, that equal volumes of all substances, when brought into a gaseous state and under the like

* Tait, *Recent Advances in Physical Science*, 2nd edition, p. 348.

conditions, contain equal numbers of molecules, it tells us what to expect as the results of a vast variety of processes. But, perhaps, the best illustration of all is the chemical equation, where the molecules, with their atomic structures, appear on one side; while the other side not merely tells us what new substances and in what quantity we may expect as the result of reaction in accordance with chemical laws, but enables us to test whether we have correctly analysed the products of the reaction when it has taken place.

Let us pause for a moment in our journey, and cast a glance back at that group of sciences which we are just parting from. They all deal with those relations of things which are regarded as external to one another, and as being acted on from without. They all belong to the region of externality in space and time. Physics is more abstract than chemistry, and mathematics than physics; but with whatever class of conception they deal, it is invariably one which is conditioned by the notion of some abstract relation of things outside each other in space or time, or both. Whether it be the projection of the metageometer, the propositions of Euclid, the numbers of the arithmetician, the continuous variation of the Calculus, the principle of the conservation of energy, the law of gravitation, the atomic theory, or the chemical equation, we are conceiving relations between things regarded as outside each other, and standing in no other relationship. This relationship falls

into many categories and derivative conceptions. It might be very useful work to try to make something like a comprehensive table of these categories and their derivatives, which should disclose them in logical order, and exhibit their relations to each other. A clear understanding of these relations might save a great deal of confusion. But such a purpose, however meritorious, is outside the business of these Lectures, which is simply to thread the way among these categories. For this purpose we have had to try our hands at some criticism of them, and it would probably be part of a complete system of Philosophy to make that criticism exhaustive. Such a system ought to be able to display to us, approximately at least, how much, amid the gain which Science yields us, we shut out and lose by the assumption, often made as unconsciously as it is dogmatically, that the categories which take cognisance only of what can be expressed as relationship in space and time, are the only categories that can guide us in the search after reality. For us here it is sufficient if further inquiry has convinced us that this is not so. We do not need to go into details, if we have once seen clearly that the fact that the categories of externality have been of immense service to the reflection of mankind is no reason for confining that reflection to their use. There has so far appeared no reason why we should not in the end be able to believe in the reality of the world as it seems. That world is no mere net-work of the abstractions

which in point of time not only do not precede, but, in fact, are quarried out of it by reflection. Nor have we found any reason to compromise our faith in the world as it seems, by conceding, what is taught by Kant in his *Critique of Judgment*, that so far as our experience of the world cannot be expressed in terms of space and time relations, and of external conceptions such as those of cause, substance, reciprocity, and the like, it has but a secondary order of reality with an origin referable to the observer as such. Such a distinction is no more capable of being justified than is that of Locke, between primary and secondary qualities. All the relationships of the phenomena of the object world are by their very origin and nature, as products of reflection, there for reflection and for reflection alone. They are abstractions secondary in time to the experience out of which they are separated. So much we can discover by the simple process, which Locke tried to pursue, of looking into our own breasts. Only let us be warned by his example. Just as he went wrong when he thought he had found an abstract idea of matter, so shall we go wrong if we think we can present to ourselves a universe consisting of, say, vortex rings in a perfect fluid in motion. Such a universe is a possible and proper working conception for abstract reflection to make use of, but not a possible or proper subject for a pictorial presentation of reality.

Nor do we better the case by making the

addition of what we call a mind operating from without upon such a universe. The conception of such action belongs, as has already been pointed out, exclusively to the field of space and time, and by these it is conditioned. It is but the conception of a cause, which can operate only within that field. To talk of such a cause as antecedent to space and time, or as a First Cause, is to use language which has no clear meaning. Causality is descriptive only of the relationship between phenomena presented as external to one another, and, just because it is a mere relationship that is described, we can conceive no cause that is not, in another aspect, effect. Nor do the difficulties end here. Such a mind, operating in such an external fashion, is meaningless, excepting as object for the subject. It turns out, when scrutinised, to be itself an abstraction, to yield, like all else of the kind, to the analysis of that reflection of which its notion is the product. We are face to face here not only with one of those metaphysical figments which the man of science seeks to expel, but with a figment of what is even worse, of bad metaphysics. A wrongful application of the categories of the physical sciences has raised this shadowy apparition. Do not let us follow it down the bye-path along which it beckons us. For that bye-path will but bring us round again to the slough of despond.

But it is not only in the quest after a so-called First Cause that these categories have been mis-

applied. We have seen of what enormous service they are in assisting us to the fulfilment of a purpose, most of all necessary in the exact sciences, the measurement of quantity. In most branches of knowledge the measuring rod and the balance and the chronometer are useful. In the exact sciences they are of the essence. But when we look around us, we behold aspects of nature, in relation to which the importance of measurement dwindles. For the man whose thoughts are engrossed with the beauty of the hills under the glow of the setting sun, the measuring rod and the balance and the chronometer have no meaning. For the moralist, who is contemplating conduct, they are irrelevant. It is true that the psychologist may occasionally, and not wholly without some result, bring them into æsthetical inquiries under such guises as the law of what has been called the "Golden Section." Fechner, who gave a great impulse to the quantitative study of Æsthetics, found that when he consulted a large number of persons as to which out of a number of different rectangular figures they preferred, there was a marked preference for those in which the short side stood to the long side in the same proportion as did the long side to the sum of both. Many investigations of analogous kinds are taking place in the psycho-physical laboratory to-day, and good may come of them.

The statistician, too, armed with the categories of measurement, may come to the assistance of the moralist. But while throughout the whole of the

fields of nature there are possible applications of the principle of measurement, it can be made use of, in such instances as those indicated, only in a subordinate fashion, which allows it no pretence of being adequate to reality. Now besides these clear cases there is a kind of phenomenon as to which it has never been so willingly conceded, that the conceptions of the exact sciences are inapplicable. The phenomenon in question is that of life. Our first observation of its nature and its distinction from other aspects of existence is probably suggested by our consciousness of ourselves, as excluding what is not ourselves. In the consciousness of the self as object we have, of course, phases which go beyond mere life—phases such as those moral and intellectual aspects which go to make up personality. The consciousness even of sensation is more than the consciousness of mere life. For this phase of the object world has, as such, nothing to do with consciousness. A thing is living when it is a self-conserving whole, preserving its identity through a course of development in which the material in which it is embodied may be wholly changed. That material can always be represented as consisting of parts external to each other. But as so presented it is not the living organism, but a lower aspect of the material which the organism uses for its embodiment. For life does not appear as a cause operating externally to the substance which it animates. Its relation to that substance requires for its recognition and compre-

hension a set of conceptions of its own, the leading feature of which is that of a whole, controlling and conserving its parts. Now of such a self-conserving whole, we seem to get our first notion in the recognition of our own bodies, as something distinct from the rest of what is outside us. They are the embodiments of our personalities, and of life as a feature of these personalities. We speedily transfer the conceptions so derived to other living people and to living things, and we abstract in reflection under them. What for our more careful reflection really does mark off from the rest this portion of the external world in which our self and our life is embodied, is not any mathematical line of demarcation, to be got at by measurement or calculation, but, among other facts, this fact that it is absorbing and giving off material, and yet remaining identically ours through the change. The substance in which life is at any given moment embodied, is no more quantitatively divided from the substance which surrounds it than is the French nation from the Spanish. It is only in a wholly secondary fashion that we can make use of the measurement of quantity in this connection. We cannot even tell whether the air we are breathing, or the food we are eating, or the perspiration our skins are exuding, are at any given moment part of us or not. We talk as though there were a line of demarcation only loosely, and because it does not at the time matter, whether we are or are not using accurate language.

LECTURE III

In this Lecture we shall have to pursue yet more closely the topic which has already engaged our attention, the nature of the phenomena of life. In the living organism, the life of the whole determines the parts, and develops until a certain course has been accomplished. So much common observation makes certain. This life is self-conserving, and it is not imparted by any cause outside the organism. Indeed, the act of determination and conservation amid the change of substance is not one in which we can perceive any relation like that of cause and effect, or which is capable of being expressed in terms of space and time relations. That it is there, that these are living beings, and that they are objects in nature in which this self-determining and conserving property predominates, is a patent fact. To say that such a property is an illusion, and that the supposed life of these objects is merely a confused and imperfect idea of what is really the interaction, according to physical and chemical laws, of particles of matter, is to darken counsel.

Observation and experiment, the two great criteria of Science, certainly afford us no warrant for so pronouncing. If they disclosed to us matter and energy as real things, existing independently of our reflection, instead of as useful working hypotheses, we might be driven to doubt our senses, and to say that our vision of the life that surrounds, was but a dream. But we are not driven into either trying to reduce life to mechanism, or to regarding the two as independent and self-subsisting realities, lying side by side in experience, like the leaves of an artichoke. Both possess, what is the mark of all the constructions of thought, the capacity of being indefinitely resolved into simpler parts. Just as the machine can be regarded as made up of parts external to each other, so the most complex self-conserving organism is found to consist of simpler units of life, called cells, each of which is a self-contained and complete living organism.

Nowhere does experience disclose to us a point where the cell is constructed by the operation of energy upon matter, according to mechanical principles. Nowhere do we come to a boundary line at the other side of which mere mechanism lies. The result is analogous to what we found when we sought for a final division of matter. An ultimate unit of life put together out of atoms and molecules, is no more conceivable than the ultimate atom. Nor is it any more to be regarded as a logically possible notion, the

necessity of which is forced on us by natural law.

The problem of *abiogenesis*, of the necessity for getting back to a stage at which life is produced by physical and chemical action, disappears when we realise that experience gives us no warrant for thinking that anything of the kind can possibly be perceived by the senses, and that abstract reasoning does not necessitate it either. We were not troubled because we could not conceive the physical atom as either indefinitely divisible or as definitely indivisible. For both notions we understood to represent not things, but thoughts. And so it is with the unit of life. So long as it is a living organism it cannot be a mechanism, because the abstract conception of life, through which alone it is presentable, is different in kind from the abstract conception of an external relationship.

Into the history and progress of Biological Science, it is not the business of an inquiry of this kind to try to enter. It is sufficient if we are able to ascertain the nature of the methods and categories of that Science, and to illustrate by examples of them the truth which these Lectures aim at setting forth. Nowhere do we see more clearly than we do here the proof that Science, like Philosophy, really progresses by means of *à priori* hypotheses, tentatively applied, and afterwards tested by and adapted to the facts of experience. Nowhere do we witness more

distinctly the embarrassment which the prepossessions of an unconscious and therefore crude metaphysic have caused to those eminent men who of all others desired to be free from anything of the sort. These men appear to have been under the domination of the conviction that the science of Biology could make no progress except by exhibiting the phenomena of life as mere illustrations of mechanical and chemical principles. They refused to accept the view of the plain person, drawn from everyday observation, that life was something *sui generis*, as much entitled to be credited with reality as mechanism. They could not bring themselves to believe in the world as it seemed. And why! Because they thought that to do so was to give up the faith in the universality of the great laws of matter and energy, which had brought them so far on their way. They were not without an excuse. Vitalism, the alternative view, had up to their time for the most part been put forward as an exception to these laws. The phenomena of life had been sought to be explained as caused by a vital force, resembling the known forms of energy in everything except conformity to the great principle of conservation. If such a force has seemed to most of the best intellects of our time a symbol for the stultification of Science, can we wonder? The old vitalism was simply a new mechanism. It was no more to be reconciled with modern Science than was the notion of Jupiter,

sitting on Olympus, and causing thunderstorms by willing them, with modern views of electrical disturbances in the atmosphere.

As the mists of controversy roll away under pressure of more complete observation and research, we begin to realise that, if Biology is to be rested on the observation of facts, the days of the old vitalism and of the mechanical theory of life are alike numbered. Both notions must be labelled "unconscious metaphysic" and be relegated to the lumber-room, where repose the discarded failures of Science. We now know that there is no trace of evidence that the laws of the conservation and degradation of energy suffer any exception in the region of life. We know not less certainly that Science is making no progress towards the exhibition of life as a specimen of mechanical or chemical action. The great result which modern Biology has achieved, lies in the demonstration that the living organism is an aggregate of the living units which are often called cells. But the aggregate is no mechanical aggregate. The cells are less like marbles in a heap than like free citizens living in a state. They act for the fulfilment of a common end, which continues so long as the life of the organism continues, and the fulfilment of which appears to be just that life. The impulse which moves them so to act, cannot, as far as observation and experiment teach us, be brought under the mechanical category of physical causation. That the embryos of individuals of the same species

should grow into new and yet similar individuals, that the foot of the newt when cut off should replace itself again, these, and countless other illustrations of purposive development and behaviour, are in vain referred to the analogy of crystallisation. Yet not the less is it unwarrantable to conclude that here we are in the presence of *conscious* purpose or intelligence in the cells. What we have to do is not to theorise, not to assume that we are face to face with what must be either mechanism or intelligence. We have to disabuse our minds of all *à priori* limitation of the possible aspects of experience, and to trust ourselves to careful observation, and to that alone. If the criticism of which the earlier part of these Lectures consists be true, there is no reason why we should hesitate to do so, or refuse to believe the evidence of our senses, when they assure us that what experience discloses cannot be shut up within any limited set of categories. When we say that life consists of purposive action and development, we do not mean that there is a conscious and purposive application, *ab extra*, of mechanical force by some independent agency. Such a conclusion would only signify the reintroduction, under another form, of the old mechanical theory. We mean rather to record that we have observed phenomena which present no analogy to the mechanical or chemical action on each other of independent atoms, and which do present a certain but very limited resemblance to the action of a

number of intelligent individuals working together to fulfil a common end. There are in nature other and much more remarkable resemblances to the conscious and intelligent common purpose of the citizen. The behaviour of a colony of ants or a hive of bees; the common instinct which makes the shoal of herrings or pilchards seek particular waters at particular times; the phenomena of that instinct which, in the case of animals, achieves results far transcending in range and accuracy what conscious intelligence could do under similar circumstances, all warn us of the danger of saying that the world is confined in its reality to this or that class or category of phenomena, and that all others are reducible to them.

If we turn to the other side of the inquiry, we find a like result. We saw that the idea of a final and indivisible atom was not only without foundation in experience, but was inconceivable, and that the notion of finality in the subdivision of matter, however useful in practice, was only justifiable as a provisional working hypothesis. In the same way, we have not the slightest reason to think that if our microscopes were increased in power indefinitely, we should be any the nearer reaching a particle of living matter which could be seen to be constructed mechanically. Such a result is as inconceivable as that such microscopes should disclose to us an ultimate and indivisible atom. What for our observation characterises living matter, even in its simplest form, is the capacity,

already referred to, of quasi-purposive action, in which the particular material is indifferent, is taken in, passed away, and changed, while the character of the whole remains. Now this is the very antithesis of what we find in crystallisation, where the form is not the reason but the result of the affinities of particular particles of matter, which, because of these affinities, arrange themselves, without metabolism, in a particular way. In life, the material is changing, while what lives preserves its identity; in mechanism, this is never so. To witness the transition from one to the other, would be to witness each contradict its nature. We can no more resolve quasi-purposive action into the result of molecular arrangement, than we can so resolve conscious purposive action, or morality or beauty. Life and mechanism are related, not as fields lying side by side in space and time, but as different points of view, disengaged, by the concentration of attention under definite categories, out of the infinite complexity of concrete experience. In contemplating life, we are so disengaging the realisation of very simple and apparently subconscious purpose in utilising changing material for the fulfilment of an end. The word purpose is used here because, although properly meaning intelligent purpose, it indicates by an analogy the broad feature which is in view, and which distinguishes even the simplest forms of life. Any other expression which would serve as a common name for the phenomena we wish to mark off

would do as well, better, too, if it were free from the suggestion of that intelligent action which properly pertains only to another and yet higher field of experience.

It is worth while in this connection to follow out the growth of the new idea of modern Biology, known as the cell theory. About half a century ago, while the old and really mechanical notion of a vital force operating *ab extra* still prevailed, the leading figure among biologists was the great physiologist, Johannes Müller. He thus stated the difficulty which attends every mechanical conception of vital processes: — * "Some have believed that life — the active phenomena of organised beings — is only the result of the harmony of different parts, of the mutual action, as it were, of the wheels of the machine, and that death is a consequence of a disturbance of this harmony. This reciprocal action of parts on each other evidently exists. . . . But the harmonious action of the essential parts of the individual subsists only by the existence of a force, the operation of which is extended to all parts of the body, which does not depend on any single organ, and which exists before the harmonising parts, these being in fact formed by it during the development of the embryo. A complicated piece of machinery, constructed in adaptation to an end—for example, a watch—may present an action resulting

* *Elements of Physiology*, by Johannes Müller, English Translation Edition of 1840, p. 24.

from the co-operation of individual parts, and originating in one cause; but organic beings do not exist merely by virtue of an accidental combination of elements; but, on the contrary, by the vital force inherent in them, they generate from organic matter their essential constituent organs. This rational creative force is exerted in every animal strictly in accordance with the nature of what each part requires; it exists already in the germ, and creates in it the essential parts of the future animal. The germ is 'potentially' the whole animal; during the development of the germ the essential parts which constitute the actual whole are produced." Müller found no evidence of a special force directed *from without*, and operating mechanically to set and keep the parts of the organism in motion. But he did suggest some kind of internal force operating alongside of other forms of energy. The theory of such a force had no warrant from observation, and was presently found to be inconsistent with the doctrine of the conservation of energy which was about to be established as the new and grand principle of physical science. Yet Müller had laid hold of the truth under one aspect. He was too close an observer not to see clearly that the mechanical laws, which were quite adequate to account for the phenomena of crystallisation and of chemical combination, were hopelessly inadequate to the realm of life. The fact of quasi-purposive action had to be faced. No doubt, men of science

would have been more ready to credit the evidence of their senses, and to record what they saw without twist or bias, but for one circumstance. Then, as to-day, they were under the domination of an *à priori* point of view. They thought, and one side of the teaching of Kant had confirmed them in this dogma, that the real was the mechanical, and the mechanical the real, and that Science could not properly admit any higher categories. The result was a long period of torturing the facts, to make them fit into this modern bed of Procrustes. The notion of a designing force, operating *ab extra*, being laid aside, other hypotheses had to be devised, within which the facts could be brought, and which would dispense with the necessity of assuming the presence of a designer. It was as one of these hypotheses that the early form of the cell theory was first brought forward by Schwann, a famous disciple of Müller.

Before Schwann's time some curious facts had been ascertained by the botanists. They had found, by examination, that vegetable tissue was made up of minute cavities or cells, separated from each other by thin walls. Schleiden, another distinguished German investigator, had reached the conclusion that a plant, taken as a whole, might be regarded as an aggregate of such cells, and that it was to the study of the cells of plants that he had to look for light upon their essential characters.

In 1831 the British botanist Brown had ob-

served that within many cells there was present a round body, subsequently called the nucleus. In the case of the developing cells of embryo plants Schleiden found that a nucleus was always present, and he not unnaturally drew the inference that, somehow, the nucleus was specially connected with cell development. As the result of further observation, he drew the inference that cells were formed from a generative fluid which filled the cavities of the old cells, and mechanically precipitated granules that increased in size by accretion. Schwann was struck with this notion, and proceeded to apply it to animal structure. He came to the conclusion that the tissues of animals might be found to develop in the same way as those of plants, and observations which he made led him to formulate the proposition that all tissues have one common principle of development, and arise out of a nucleus or nuclei, which assume the form, first of cells, and then of tissue.

Because all tissue elements are originally cellular, Schwann thought that the conditions of growth and development are probably everywhere the same, and to be looked for in the nature of the growth and development of the cell. The ovum, for example, of the animal (and in the plant world there are analogous cases), is a single cell, and yet it lives by growing. How does it grow? It must grow, argued Schwann, in this case quite independently of other cells, and if this be true, does it not furnish the key to the real principle of the

growth and development of the organism? "The cause," he said, "of nutrition and growth resides, not in the organism as a whole, but in the separate elementary parts, the cells." This phenomenon of growth and nutrition he held to be similar to the process of crystallisation, and to require only a physical explanation. He saw, of course, certain differences. The new molecules of a crystal are deposited only on the surfaces; whereas the cell walls not only thicken, but expand from the inside. Certain cell molecules must therefore be acquired by "intussusception." The power, which observation showed him that the cell possessed, of chemically changing the liquid in which it grows, he likened to the action of the galvanic pile. Anyhow, he said, there was no reason to look for a meta-mechanical explanation.

Schwann's doctrine had the great merit of leading Biology away from the notion of an outside and non-natural mechanical influence. Such a notion had become more and more difficult to reconcile with the new theories of energy, as put forward by the great physicists of the middle of last century, and with that of development as suggested by Kant and Goethe, and placed on a scientific basis by the embryologists. But almost from the first his theory of cell development had to encounter difficulties. It was soon found that new cells are formed only by the division of previously existing cells. "Omnis cellula," said Virchow, "e cellulâ." It turned out that no case

could be found of living matter being derived directly from a lifeless *plasma*, or from anything except living matter. New cells, it appeared, were related to old ones, not as in the case of crystals by mechanical division, but by descent. Common descent was found, in point of fact, to be the real explanation of biological similarity. Epithelial cells, for instance, always gave origin to epithelial cells, and never to connective tissue, or muscle cells. Virchow further found that the growth of the cell is unlike that of the crystal in this, that it does not always take place according to the quantity of molecules of its own kind supplied to it. The assimilation of material by a cell, he observed to depend on a number of associated processes in the cell itself. We now know that growth is regulated by the cell itself, and not by the abundance of any particular nutrient material in the surrounding liquid. Cells similar to each other may grow in different liquids, and cells of different kinds in the same liquids. If the supply of oxygen be varied within certain wide limits, the organism absorbs the same quantity, and the same is true of the cells. In the words of a distinguished modern physiologist, Professor Pflüger, "the living cell, and not the amount of oxygen in the blood, regulates the consumption of oxygen."

The next great step in advance of the point reached by Schleiden and Schwann was made when the nature of the cell was further defined. These

inquirers had laid stress on the nucleus and the cell wall as the two important elements of the cell, and they had not attached much significance to the intervening liquid. But the discovery of protoplasm, as the common basis of life in the animal and vegetable worlds alike, changed all this. The intervening liquid turned out itself to have the characteristics of the living cell, and the cell to be no more than a nucleated mass of living protoplasm, endowed with the power of altering its own configuration. This conception proved fertile. A muscle fibre came to be regarded as a family of cells, the protoplasm of which had never been definitely apportioned off, but had become differentiated into striated material, the peculiar contractility of which was but a special development of the contractility of the original protoplasm. The most various structures and kinds of material found in the organism came to be regarded as either products from the living protoplasm, or as modified protoplasm. When we trace back the development of the tissues of an animal, we arrive at last at a single cell—the ovum. Little is known of the nature of the protoplasm out of which this ovum is formed. But even in the lowest forms of life, in the *amœba*, and in the simplest manifestations of protoplasm in the vegetable world, there are traces of quasi-purposive action. Not of purposive action, as the older vitalists conceived it, in the form of an impulse from without, but as a movement from within. The living organism can always, however

highly developed, be regarded, by abstraction, from a purely mechanical or chemical point of view. The substances it takes in, and its kinds of energy, are all known, and it presumably gives them out in the same quantity, changed only in form. What physics and chemistry do not explain to us, is the principle of its metabolism, the preservation of its identity in changing material, as the state preserves its identity while generation succeeds generation of its subjects. For this, the essence and characteristic of life, physical science has no formula, no name even. On the one hand, this may be a fact which we observe and cannot get behind, in which case we had better agree with Johannes Müller, and disabuse our minds of the prejudice which either denies to the organism any existence as a self-conserving whole, or, if it looks on the cell as something *sui generis*, yet insists that the organism is a mere mechanical aggregate of these cells. On the other hand, the quasi-purposive aspect conceivably may be an illusion of our senses which it remains for science to dispel, and to exhibit to us as a form of mechanical relationship, cognisable under categories which rise no higher than those of physics or chemistry. But why should we start, as so many men of science have done, with the preconception that this last alternative is the true one? Is it more than one of Bacon's *idola theatri*, a current notion which we adopt without proper reflection, just as the theologian adopts, at the

other extreme, the notion of an outside designer as being a notion without which there is no option but to turn to materialism? If the standpoint of these Lectures be a true one, we are free to believe in the world as it seems, and not driven to sacrifice any aspect of it on one altar or another. If the supposed facts of observation which we indicate by our names life and development are, what all plain people assume them to be, real facts, why should we strain every faculty to explain human beings away into automata, or quiver with excitement when some one writes that he has found that protoplasm may apparently be reduced to a condition of chemical inertness (*e.g.*, in resting seeds), devoid of metabolic activity, and yet conserving through generations the potentiality of life. If a thousand such results were really established, we should yet be as far as ever from exhibiting life as a mechanical arrangement of molecules. We should be just as near that result as we are to exhibiting at one extreme a world made up of geometrical figures, or, at another, to displaying the sense of duty as depending upon a quantitative estimate of sensuous pleasure. Let us at least be careful to learn to criticise our categories before we embark on such enterprises.

We have just been considering a particular set of the fundamental forms in which the content of the object is arranged in knowledge. We have found that in the presentation in thought of a whole which is self-conserving amid changing

material, the categories of life, development, and organisation are just as much fundamental as are the categories we first considered, and as little capable of being explained away by them as they in their turn are capable of being explained through each other. We naturally abstract under such fundamental conceptions, because they are just the fixing in abstract knowledge of fundamental relations of thought which pervade the constitution of our experience.

So far we have had no cause to reject as unreal any aspect of the world as it seems. We have found ourselves bound to turn a deaf ear to the appeal of the physicist and the chemist about life. Now there is another appeal which we may have to reject, and of which we hear a little even at this stage of our journey. Conceded, it is said, that the living organism is a real and irresoluble phenomenon of nature, there is at least no ground for saying that any other than a derivative reality is to be ascribed to such appearances as the community, or the nation, or the state. This assertion marks off for exploration a region which we cannot neglect if our inquiry is to be complete. But the assertion also suggests that we cannot satisfactorily undertake that inquiry without in the first place ascertaining a good deal more about the individual. Is its reality to be limited to that of life, with its quasi-purposive manifestations? Or must we not recognise as equally real that higher type of the action of living beings, in which they not only act

quasi-purposively in conserving their individual identity and development as organic wholes amid the metabolism of material, but act quasi-purposively as members of a community. The ant-heap and the bee-hive afford illustrations of the habits of animals which exhibit such action in an extraordinary degree. The process of reproduction of the species, and the quasi-recognition of this duty to the species even at the cost of life, is another striking illustration of it. And then, beyond the field of all this lies the vast region of conscious purposive action, attended by the recognition of a moral duty owed to the community, the assertion of which is embodied in the laws and other institutions of the state. This we find in a variety of forms, some rudimentary, others of a high order of development. We see something analogous to it even in the animal world, lying between the regions of instinct and those of developed intelligence. It is plain that the actions of living beings endowed with any of these attributes, even at their lowest stages, must be widely different from those of machines. And it may be, also, that our modern notions of evolution, and the interpretations put on the principles of Darwinism, have been in consequence of too narrow an order. The realisation of other ends than those only of natural and sexual selection may have guided the evolution of species.

In the course of the further journey that lies in front of us, we shall have to pause to consider

what we see of two new sets of phenomena, the higher aspects of the individual, and the existence of the community. Before, however, we proceed to the first of these kinds of phenomena, there are one or two things which are suggested, as bearing on the second, by the consideration of the categories of life, and which deserve a glance, even at the risk of anticipating. We saw that the living organism is conceived as a self-conserving whole, embodied in, but controlling, its parts. We saw that this organism is made up of living units, themselves possessing all the attributes of living beings, and, in addition, acting quasi-purposively in fulfilment of the common end. Not only is this so, but the organs of the living being act also quasi-purposively. If a kidney be removed, the other kidney will commence to do double the amount of work, repudiating the characteristic of a mere machine. The eye and the ear adapt themselves in like manner to the necessities of new surroundings in the mine or the forest. If there be one thing plainer than another, it is the reality of the living body as a whole, as distinguished from its reality as a mere numerical aggregate of the cells and organs of which it is made up. The conception of this relationship between parts and whole, a relationship which, as already pointed out, more nearly resembles that of citizens to a state, or soldiers to an army, than that of an arrangement of mutually external things grouped together by

external action, as in a machine, seems just as much fundamental as any other we have yet come across. If so, there is no reason to suppose that we shall have to yield to the doctrine of atomism when we get to the higher aspects of living things. If the organism be real as a whole, why not also the state as a whole?

It would hardly have been necessary to raise this question at this point, were it not for the circumstance that it is one which arises naturally. Our plane of intelligence as human beings is, as has already been several times remarked, the plane of individuals, whose situation is that not only of being confronted by a not self, but of being one among many. We naturally enough incline to take our plane or stage as final, because it is the plane or stage at which the Universe, with ourselves in it, happens to be presented to us. It is easy to recognise our bodies as really living wholes controlling the units of which they consist. But it is quite another matter to present the other relations, such as those of the individual to the state, or even the family, as real in the same sense. That they must be regarded as such, we may find. But the witness of their reality is, for intelligence of our order, the result of cogent inference rather than of direct perception. A view from a higher standpoint than that of man might find the family and the state presented as wholes in perception, just as plainly as it could find the organism so presented. But for us, the

limits of whose capacity of what passes for direct presentation are restricted through a medium which has already been discussed, no such view is possible. History and sociology, not to speak of morals and jurisprudence, no doubt recognise its possibility, and speak in language which suggests such a direct presentation. But we shall find, when we come to them, that these sciences, like the others which we have already considered, speak in the language of abstraction, and proceed by putting the individual, and therefore, for the moment, what in everyday parlance is meant by reality, out of account. Throughout the series of the sciences, one seems to feel the necessity for a criticism of categories, were it only for the sake of trying to introduce order and precision into the use of words.

These observations, however, are made at this stage only for the sake of getting rid of any preliminary prejudice. They will have to be developed in their proper place. Meantime, in pursuance of the general plan, the next step on our pathway must be taken in the direction of the living individual, and with a view of getting a closer notion of its nature.

In the crystal we have what is fixed and unchanging. The form is the result of the relationship of particles standing in a definite and permanent conformation. In the living organism, from the cell upwards, the material is constantly changing. The form of the organism cannot

possibly be the outcome of the action on each other of the molecules of its substance, for these molecules are constantly changing, chemically as well as physically, and giving place to fresh material. More than this, the form of the organism is itself in a course of continuous change from birth to death, and of change in accordance with a definite principle, first of growth, and then of decay. If we held any longer the window theory of the mind, and looked upon the senses as simply transmitting the images of things that are there independently of thought, we should be at a loss how to reconcile the experience of life with the rule of mechanical law. But life and mechanism we found in the first Book to be but abstract dispositions in reflection of the particulars of sense, self-contradictory, if taken even for a moment as final and self-subsisting, and legitimate only as modes of abstraction. To those who have succeeded in crossing the Asses' Bridge of Philosophy, and have so got away from the region of superstition, the difficulty of recognising the living organism as equally real with the machine, has disappeared. Both are points of view which of necessity emerge in reflection, and go to the making of the riches of the world of experience. Just as we found that we could define the characteristics of the machine or of the chemical molecule or the crystal, so we find that we recognise at once those of the living organism. Its existence is not, as with these, of a statical order. It

preserves itself through a complete alteration of its substance. It not only preserves, but develops and produces itself according to the law of its being. It has a form that varies, but varies in strict accordance with this law, and in such accordance and the continuity of behaviour which flows from it lies the identity of the organism, of which the varying characteristics are produced, not by forces acting from without, but by development from within. We never find it as an aggregate of particles of mere matter. The harmonious co-ordination of such particles into one life would be, not a miracle, not even a triumph of the laboratory, it would be as much a self-contradiction as the discovery of a round square. Life, when we analyse it, ever turns out to be the co-ordination of living units or cells, themselves no more final or fixed in their existence than the organism to which they belong. We are in this region at a standpoint which is entirely different from that of the mathematician, or the physicist, or the chemist, and we are arranging our materials under a wholly new set of categories. The *differentia* of the individuality of the organism is not the principle on which its parts externally act on each other, but the dominating law of its own development. As a living being, I am what I am, in that I exhibit the characteristics of my time of life, and of my relationship to other living beings, from whom I am descended.

Every point of view we have examined has

proved to be abstract, and therefore insufficient. As soon as its general conceptions were isolated and treated as though they could be exhaustive of reality and more than a useful but temporary and provisional mode of approach, the point of view turned out to be self-contradictory, to exhibit what Plato called "Dialectic." The individual as qualified through it proved to be no resting-place. From the conception of abstract externality to that of subject and object, we found ourselves safe so long only as we regarded the ground we were for the moment treading as only provisionally sound. And, like the rest, the conception of the living organism turns out to be abstract and provisional only. When by means of it we try to express what nature presents to us in the case of the bee that unerringly returns to its hive from miles away, of the dog that barks with joy at the return of its master, of the human being that feels and knows and acts, this conception turns out to be inadequate. It has taken us above the still less adequate standpoint of mere externality, to which the mathematician and even the physicist is confined. It has shown us control of parts otherwise than from without. It has taken us no distance towards the notion of the great fact which confronts us, the existence of conscious, purposive, freely self-directing mind. The relation of mind to its object is not one of externality, for externality, exclusiveness, whether

in space or time, is but one of the relationships which obtain and have meaning within the object world. It is not like the relation of the living organism to its changing substance, for it is only as embodied in that changing substance that the living individual exists; and although raised above mere externality, the conception of life is not wholly independent of it. But the mind neither is external to its object nor exists in it. From that object it can wholly withdraw, detach, distinguish itself. It stands to that object, not as a thing outside another in space, but as that *for* which that object is. When it is itself made object, it becomes such through conceptions which not only are incapable, like that of life, of being expressed in relations of space and time, but are different from all those which belong to the externality of nature. Of the conscious individual our conception is highly composite. His individuality is, as has been already pointed out, dependent on a multitude of considerations, some, at least, of which belong to the province of the outside world. He exists as a this, here and now, or as a that, there and then, in virtue of his situation in space and in time, and of his relation to other individuals. His height and his weight are made definite in knowledge through the physical categories. His organism belongs to those of life. But beyond all these lie his intellectual and moral peculiarities, peculiarities which exist only for a mind applying

categories which transcend those of the external object world. When we speak of his soul we mean, if we attach meaning to our words, not a substance somehow in contact with the brain, not an entity separate from the body, but those aspects of the individual which transcend his aspects as a physical object or even as a living object, and in which he appears as an intelligent and moral being. To speak of the soul of an automaton, or a rose-bush, or a lobster, is to use language of more than questionable application. We perceive in the lower animal world little, if anything, higher than life. Man lives, but he does more. He is conscious, and thinks, and acts freely. In the object world it is this or that man, determined through, among other things, a definite physical organism, that is so conscious, and thinks, and acts. His soul is bound up with nature to the extent of being an aspect of the natural individual. But it is an aspect of the individual that passes beyond nature. Body and soul are not two things somehow bound together. They are different aspects of one and the same object. Just as the life of the body is the harmonious working together for the fulfilment of a common end of a multitude of parts, each of which consists of independently living units, so the existence of the soul is the harmonious self-direction of the body for the realisation of intellectual and moral ends. Between mere life and mere intelligence there lie intermediate stages, above the categories of the

first, below the categories of the second. There is, for example, the sub-conscious quasi-intelligence of the dog who, never having seen them before, avoids the poisonous reptiles, or eats grass as a medicine. Such phenomena as these lie between life and mind, as the relations of chemistry lie between mechanism and life. All of them enter into the structure of the individual man. But the highest and most distinctive of his characteristics, those that make him for us just this individual like unto ourselves and no other, are the characteristics which are recognised by the application of categories higher than those through which mere nature becomes an object in our preception. It is through these categories that the living being becomes something more than merely living. It is finally through them that the externality of space and time is transcended, and we recognise him as equally with ourselves the subject for which an object world which includes ourselves is there. It is so that, in regarding him in his aspect of a moral and intellectual being, we have transcended space and time. When this stage in the logical scale is reached, we are thinking from the standpoint of the subject distinguishing itself from the object, and conscious of itself as spontaneous and free in the process. What we perceive of the individual so imaged in the world of nature around us is, in one point of view, not directly this, for it never can be bodied forth in the relations of externality, but the

suggestion of it, the things which indicate and suggest it as the blotches of paint on the canvas indicate and suggest the conception of the artist. Just as they can be looked at as mere blotches of paint, so can the actions of the conscious individual, so far as they are manifested in the world of externality, be regarded as mere life, or even as mere mechanism. But in both cases the truest as well as the most appropriate and ordinary significance would be lost. The complex standpoint of the common sense of the plain man assumes the highest just as much as the lowest. And if they are not disentangled in everyday perception, it is because it is not necessary for the purposes of everyday life to disentangle them. The incrustations of the habitual assumptions of our common intercourse and language form the ground on which we tread our daily path. The ground is firm and satisfactory enough for ordinary use. It is only when we seek to drive along it the heavy coach of philosophical inquiry that it proves to be yielding.

Above mere life, instinct; above mere instinct, the intellectual and moral harmony of the body which we call the soul; above and beyond the soul, mind, transcending the categories of the one and the many; between them all a multitude of minor phases; the individual emerging as the result of a combination of aspects and standpoints; this is the result to which analysis brings us. Let us pause at the lower aspects of

individuality, and look for a moment at life as the physiologist's microscope discloses it.

To define life has always been a difficulty. Every one knows what it is, no one can explain it in terms of anything but itself. The reason of this may be that its conception is so far fundamental that it can only be resolved from the standpoint of a yet higher conception towards which it is a stage. This at least is clear, that the attempts at definition in terms of physical forces have been conspicuous by their failure. To call life, as Mr Spencer does, "the definite combination of heterogeneous changes, both simultaneous and successive, in correspondence with external co-existences and sequences," is not to define, but to describe, and to describe pedantically and insufficiently. If we are to go to the philosophers for definitions, it is better to turn to Kant and Hegel. "Life," said Kant, "means the capacity of a substance to set itself in action by virtue of an internal principle." * "Animal nature," said Hegel,† "is characterised by that subjective unity through which all the organic parts are subordinated to a whole that is a unity. The physiology of the animal organism deals with the functions of the parts which co-operate in the continuous development of the whole, and are themselves developed and conserved in the pro-

* *Metaphysische Anfangsgründe der Naturwissenschaft,* edited by Rosenkranz, 1838, p. 408.

† *Propædentik,* 1840 Edition, p. 176.

cess." Hegel, it will be observed, does not try, like Mr Spencer, to define the unity mechanically, as a "definite combination." Rather does he regard it as something pointing for its explanation to a set of conceptions beyond mechanism altogether. It is interesting to compare this with a popular description of the life of an organism given by a recent writer on physiology.* "Just as an organism is a collection of cells, each having its own life, yet all bound together for mutual service, so is a nation a collection of individual men and women. And as the perfection of an animal is measured by the completeness of the division of labour among its cells, so is the civilisation of a nation measured by the harmony of organisation of its labour. Further, just as there have been many species of animals which have appeared, lived for a time, and then given place to higher species, so there have been civilisations which have flourished for a time, and then died away. Any fairly complex civilisation will serve as a type of the division of labour in the body of one of the higher animals. First there are the persons concerned in the getting of food, like the limbs and mouth of an animal. Then the food is prepared for use by other labourers; such are the digestive organs of the animal. The food has to be distributed to all members of the community by merchants and carriers; the blood and blood-vessels perform this function. The whole com-

* Article on Physiology in *Chambers's Encyclopædia*, 1891.

munity has to be warned of dangers, directed and governed, and made to act harmoniously by the statesmen of a nation; the same things are done by the sense organs, brain, and nervous system of an animal." Here we have "subjectivity" brought in with a vengeance. It is analogy merely, and not truth. But it is at least more like the truth than those descriptions of the physicists which fall further short of the facts than this goes beyond them. What we know for certain is that if we are to look at facts and not to allow our faculty of observation to be distorted by theories, we must recognise that the body of the living man consists of a great number of living parts, or organs, each of which has its own special work to do. Each organ not only does its own special work, but acts in harmony with other organs. The relationship between the organs groups them into systems. Thus we have the circulatory system, that is, the group of organs (heart, arteries, veins, etc.) concerned in the circulation of the blood; the respiratory system, that is, the group of organs (air passages, lungs, etc.) concerned in the act of breathing; the digestive system, which deals with the digestion of food; the excretory system, which gets rid of waste products; the muscular system, which deals with movement; the skeletal system, which has to provide for the support of the softer parts of the body; and last, but not least, the nervous system, the great master system of the body, which presides over, controls, and regulates

the other systems. If we go further with our analysis, we find that each organ consists of elementary tissues. These are of four principal kinds: epithelial, connective, muscular, and nervous. If we go yet further, we find that the individual tissues are built up of structures which require the microscope for their study. The tissues, when scrutinised, turn out to consist of living units called cells, bound together by more or less intercellular material according to the nature of the tissue. The cells have common characteristics. They originate in a living material called protoplasm, and may be described as small masses (varying in the case of the human body from $\frac{1}{300}$ to $\frac{1}{3000}$ of an inch) of protoplasm, containing in each case a nucleus. The simplest animals, such as the *amœba*, consist of one cell only, the most complicated of many millions. All cell life originates from cell life. Even the higher animals and plants are uni-cellular to start with, but the original cell, in dividing, instead of forming, as is the case with the lowest forms of animal and vegetable life, another complete and independent animal or vegetable, forms cells which stick together and subsequently become differentiated and altered according to a definite principle of development. When a certain stage of development has been reached, the different descriptions of cell reproduce their own kind, and their own kind only. Thus epithelial cells produce epithelial cells, and no others. Every cell, of whatever kind,

possesses five great powers : movement, assimilation (the power to convert nutriment into protoplasm), growth, reproduction, and excretion. But, although in a sense living beings with an independent life, the higher forms of cells live only as component parts in higher unities. The cells of the more complicated organisms tend to differentiate in function. Certain sets predominate in irritability, others in contractility, others in storage, others in secretion, and so on. In such cases, one function predominates over the others, which become subordinate, or even mere dormant possibilities. In this fashion there arise muscle cells, nerve cells, fat cells, and the like.

We see now what life is, from the point of view of the physiologist. It is the co-operative action of the various parts of the organ, and of the cells which build up the structure of the organ, in the bringing about of a common course of development. This course of development has a beginning, a highest point, and an end. Its efficiency depends on the co-operation of the parts for the fulfilment of a common function. The perfectly developed function is not attained at once, nor does it last for ever. The reason, the final cause of this, is seen when we turn to the species, the whole in which the individual in its turn functions for the attainment of an end beyond its own life. In the process of its greatest function, the one of which it is capable only in its perfection, reproduction, the individual exhausts

itself. This exhaustion may take the form of instant death in the act, as is the case with some of the lower organisms, or it may assume the form of the tax which family life forms in the case of the man and the woman. The species in each case requires fresh individuals for the fulfilment of its end, and this requirement is facilitated and room is provided by death, or the dissolution of the individual, in which, after a period, the parts cease to co-operate. In the lowest forms of organism, where the common life of the species is but little apparent, this is much less strikingly so. In the case of the uni-cellular Protozoa, it has been suggested by eminent biologists that they may, so far as any reasons or indications to the contrary go, be immortal. But in the higher organisms, the break-up and ending, after the course of development has been run, of the common life of the organism, is as much a part of nature as the beginning of that life in birth. The ground of both beginning and end is to be sought in no physical cause, but in the tendency towards the realisation of an end which may be called *ideal*, meaning thereby that it cannot be found in any physical or chemical relation, and operates from within and not from without. This ground is not a cause, nor on the other hand is it the kind of internal ground that we know when we distinguish the mental phenomena of conscious purpose. There is no more reason to connect it

with consciousness than to seek for a special vital force to account for it. It is simply a fundamental feature of that sphere of the organic which lies midway between mechanism and mind in the forms under which the object is known. The human body has mathematical, mechanical, chemical aspects, but not as living. It has aspects which belong to the sphere of consciousness, but these, again, it has not merely as living. To mere life belong the phenomena of the individual in its relation to the species. But what in life, as compared with mere mechanism, is spontaneous action from within and not causation from without, is still something entangled with externality. The stimulation of the physiologist is more than the causation of the physicist. The consequent, be it movement, or secretion, or sensation, is not just the energy of the antecedents in another form. It is different from this, on the one hand, and from motive and consequent volition on the other for there the phenomena are purely subjective, so far as directly presented in consciousness. There is no room for the suggestion of identity. In the relation of nerve stimulus to its consequent, although the change which travels along the substance of the nerve is in some sense physical, as is shown by the electrical phenomena which accompany it, it is not this change, nor yet a mere liberation of energy in the nerve centre, which is the effect. For the nerve and the nerve centre both adjust

and restore themselves. They act, in other words, not as machines, but as parts of living beings; and they show all the phenomena of self-conservation in change, which are characteristic of life.

In the *Times* newspaper of 11th October 1902, there was reported an address delivered by a distinguished surgeon, Sir Frederick Treves. Speaking of the advance of Surgery since the time, 260 years before, of the author of the *Religio Medici*, he gave a description of disease as the surgeon of to-day comprehends it, which is so relevant an illustration of what we have been discussing that I am going to quote the report without comment:—

"In the days of Sir Thomas Browne a conception of disease was current which still influenced the minds of many, although that conception should have vanished with the advance of scientific knowledge. The old idea of disease was, that it was a malignant entity, a something vaguely individualised as evil in origin, evil in intent, and evil in effect. It was the roaring lion going about seeking whom he may devour. The conception went further, and made of disease a Prince of Darkness vindictively hostile and potent only for ill. His minions fell upon the land like a hideous blight, and covered a smiling country with the shadow of death. Primitive people regarded disease as the work of a malignant spirit, who entered into a man, and who was to be propitiated

by gifts and flattery on the one hand, or driven out by the beating of tom-toms, or by strident incantations, on the other. To the author of *Religio Medici*, disease was still the outcome of an influence which was outside the body and quite distinct from it. There was nothing natural in any of its processes, and nothing beneficent in any of its manifestations. It followed from this that every symptom of disease was of necessity regarded as wholly noxious, and as needing to be stamped out by unconsidered violence. If the patient vomited, the vomiting must be stopped; if he coughed, the cough must cease; if he failed to take food, he must be made to eat. Not for a moment could it be considered that there was any benevolent purpose in these phenomena. The physician of the present day could not include this conception among the articles of his faith. In the new *Religio Medici* this matter of belief must follow some such lines as these:—The human body is highly organised, is frail, is finite, and is, of necessity, prone to decay and dissolution. It grows, it reaches its maximum power, it declines, and its capacities fail. In the progressive enfeeblement, and in the slow elimination of the evidences of life which attend old age, there was nothing preternatural, and nothing which could be considered to be due to other than the simplest natural influences. The inherent decay of the human body rendered it liable to accident, and there was no reason why it alone—of all other organic structures—should be exempt from injury.

The body also—like other living fabrics—was prone to be infested by parasites, and upon the action of these parasites very many maladies depended. Not only was there nothing preternatural in disease, but it was the outcome of natural processes, and, more than that, there was evidence to show that many of its manifestations and of its methods were marked by a purpose, and that that purpose was beneficent. The time had come when it would rather appear that many of the so-called symptoms of disease were expressions of a natural effort towards cure. Having enlarged on the relation to specific diseases, he said this matter might be followed out a little more in detail in connection with the symptoms of the disease familiar by the uncouth name of appendicitis. In this malady a trouble occurred in the appendix. The wall of the little tube became perforated, and an acrid poison found its way into the sensitive cavity of the abdomen. This, at least, was the essential calamity in many instances. The perforation was sudden, was accidental, and might be preceded by no warning sign of any kind. The manifestations which followed the perforation were termed the symptoms of peritonitis. They were distressing and urgent, but they were all benevolent in intent, and were the outcome of nature's vigorous effort to minimise the calamity, and save the patient's life. The intense pain and collapse imposed upon the victim absolute rest, and, more than that, enforced rest in the most advantageous posture

—that, namely, of recumbency. He was rendered helpless at a moment when any movement might be attended by disaster. The sickness and the utter nausea which attended it secured some emptying of the alimentary canal, and forbade the introduction of any fresh material into an intestine which was best placed for recovery when it was least occupied. The skin of the abdomen became acutely sensitive, and so protected the damaged parts from disturbance and pressure, and this most necessary end was further secured by another symptom—the remarkable rigidity of the abdominal wall. Even should the affected area be accidentally pressed upon, the firmly-contracted muscles which covered it would shield it like a protecting cuirass. Thus was brought about that state of absolute rest which was essential as the very first step towards the repair of the injury. At the same time, the condition of the circulation was so modified as to render absorption of septic matter from the affected district as little ready as possible. Within the abdomen the manifestations of peritonitis are appearing. Peritonitis had commonly been spoken of as one of the most deadly and most malignant of calamities. Never was a condition more unjustly abused. The phenomena of peritonitis should be hailed with thankfulness. Peritonitis was concerned only in effecting good. Many of the symptoms of disease, instead of being pounded out of the body by violence, as wholly pernicious, should rather be regarded as means

for guiding the physician in the treatment he should adopt."

We have now seen what life means, from the point of view of the physiologist and the physician; and we have also seen the importance, in giving a clue to the meaning of death, of the position of the individual, as belonging to a species. There are other relationships of the individual, not to the species, which is a biological conception, but to such higher social wholes as the family and the state. But the meaning of these can only be appreciated when man has been considered as a conscious and rational being, for it is to these aspects of his nature that his social relations are linked. We must, therefore, pass from the sphere of the physiologist, that of life as such, to the sphere of the psychologist, that of consciousness.

LECTURE IV

Let us make a start by again trying to disentangle what is meant by a man's personality. It must not be forgotten that the individuality of a human being depends on no single aspect. His physical, his physiological, his psychical idiosyncracies, all go to make this up. He is just this, and no other man, from the standpoint of everyday life, which is never very abstract, and therefore never very precise, and which brings in, without distinguishing them, a number of wholly distinct aspects. It is another of these aspects which we have now to consider. Man not only lives, but knows and wills. His existence is not only that of a self-conserving whole, but of a consciously self-conserving whole. As a being who knows and wills, and is conscious of himself as knowing and willing, he is an intelligent and morally responsible member of society, standing in relations to the family and the state as real as those of his organism to the species. It is at the nature of this aspect of man's existence as a conscious being, that we must now try to get. The problem is a baffling one, yet we are not without some clue to its solution. We

have found it impossible to regard the world as it seems, as made up of the relationships of externality. The notion of a whole conserving itself in changing material through a course of development, cannot be expressed in terms that are mathematical, or physical, or chemical. We found ourselves driven to invert the usual process, and instead of trying to construe the world as it seems, in terms of these sciences and as unreal so far as it pretended to be anything beyond them, we found it easier to exhibit all such terms as the names given to abstractions from the concrete and individual facts of experience. Let us begin, then, by getting an idea of what we mean by consciousness, for it may turn out to be just as absurd to try to reduce it to mere life, as it proved to be to try to reduce life to mere mechanism. Now, it is generally best when one wants to find out the nature of a particular experience, to begin by asking what it means to the plain man. If we ask the plain man what he means when he speaks of his consciousness, he will say that it is what he has before his mind when he is not in a profound sleep. When his mind is awake, that is when he knows, and knows that he knows, he is aware of two sorts of object—the one, the world which he perceives, the other, himself perceiving it. Of the perceiving self, he will probably add that, so far as he has any clear idea about it, it is an individual among other individuals, with feelings and faculties which are directly and intimately known to him as

pertaining to himself as, in a fashion, at the centre of the universe. Pressed as to what he means by the centre of the universe, he may be got to say first, that it is the centre, in so far as it is the only here and now, and carries with it memories of what has been here and now, and expectations of what will be here and now. All else is, has been, or will be, there and then. Pressed further, he will, as was pointed out in the first Book, trace all this back to a foundation which he cannot see, or hear, or feel, or taste, or smell, a subject of knowledge which can never as such be presented as object, towards which he can go back indefinitely by abstracting from the object world, but which he can never reach in perception. In perception, the nearest approach to the perceiving self is found by the plain man in the particular object of knowledge which is most nearly here and now, the feelings and activities of which are experienced in a direct fashion in which the feelings of no other self can be perceived. It would seem as though at times he was seeking to isolate the subject and make it an object of perception, and that the only result of the attempt was a constant failure.

When he tries to ascertain precisely the nature of this subject self, he does it by means of abstractions, which represent not the real, but only aspects of it, and which yield truth in a form which is provisional only. The here-ness and now-ness, which are characteristic of the approach to the

standpoint of the knower as distinguished from the known, are, after all, abstract conceptions belonging to that externality in space and time, which is transcended even in life, and much more in thought. We cannot say of the life of the body that it acts upon the body at any particular place or any particular moment. It is neither here and now, nor there and then. When we speak of it in such terms, we have really ceased to speak of life, and have passed to another standpoint from which the body is conceived as a mechanism. Now, in the plain man's world of experience, all these standpoints are adopted indiscriminately, and without being distinguished. His habit of passing unconsciously to whatever plane of abstraction is most convenient for the moment, enables him to talk of mind, and life, and mechanism, as though they were so many separate things lying side by side in space, instead of being so many different points of view from which he unconsciously analyses and arranges experience. Just as he talks, in a fashion that cannot be justified, of himself and his fellow-men as receiving the same impressions from without, and as this idea, useful and necessary for everyday intercourse, has become embedded in the language by which it was created, so when he talks of himself he indicates a highly complex and derivative conception, drawn from more standpoints than one, embracing features that are physical, organic, intellectual, æsthetic,

and moral, all unconsciously combined. One of the reasons why it is so difficult to define what is meant by self in common speech, is the enormous complexity and intricacy of what is indicated, a complexity and intricacy which are latent in our words, and which only do not come to consciousness because attention has been long since diverted from the process by which even in childhood the idea began to be built up. A man's self includes, in a sense, even his clothes. In a more precise use of the word, it excludes these, but includes his finger. But his finger is only relatively here. From another point of view it is there and outside him. It may be cut off, and yet he remains the same self. He remains himself, though his moral character changes, and although he is temporarily unconscious. Surely we have here just one of those practically useful but only provisionally true constructions of language, such as we became aware of in the case of the supposed identical object world perceived in common by A and B and C, but which turned out to be merely a figment of the practical activity of common sense. The word self seems in this connection to indicate an asymptotic approach to the conception of the subject, and a vast accumulation of material picked up and stored in memory in the course of the journey.

Just as the conceptions of life, inexplicable and unreal if the principles of mechanism were taken to be final, proved to be both explicable

and real when the latter were seen not to be final, so the conceptions which belong to the region of what we term consciousness are in their turn valid within the sphere of their application. Mechanism, life, and consciousness are not separate things, but are standpoints interwoven in the practical whole of experience. Consciousness perplexes us only if we insist on making reality stop short at something below consciousness, instead of seeking for it in something above. Pass to the standpoint of consciousness, and we find a whole region of characteristic conceptions which we make distinct to ourselves by abstraction. In the region of mechanism the parts are external and independent. Their position relatively to each other, their action among themselves, is determined from without. In the field of life the parts are controlled through their course of development by a whole which is ideal in the sense that it is neither external to or separate from its parts. That this control is consciously purposive we have no reason to believe. The frog or the pigeon whose cerebral hemisphere has been removed continues to live and to act. But the action is always in response to some stimulation from without. There is none of that self-determination which is characteristic of the intact animal, and makes its action impossible to foresee in advance. The plant lives, but it shows no sign of voluntary self-adaptation. It develops and moves its parts in accordance with

rules that can be ascertained. The phenomena of reflex action, and even those of instinct, do not seem to be consciously directed. There is between mere life and purposive action a borderland, where what takes place is *quasi*-purposive, yet not, so far as the observer can get evidence, actually purposive. But when we get to the region of consciousness, the phenomena are of an entirely different order. Here we experience the will to act, and the nearer we get to completely voluntary self-determination, the further we have penetrated into the region of consciousness. Into the simplest feeling there enters an element of comparison with some other feeling, present or past, from which it is distinguished. Such an act of comparison is essentially an act of will, of what is inward and self-determined. My body is what is mine, what I have control over. The process of selective attention, the foundation of all abstraction, and therefore of all knowledge, is an act of the will. The more one reflects upon the phenomena of this region of consciousness, the less does it seem possible to separate or even distinguish intelligence and volition. They are different aspects of one reality. What in ultimate analysis that reality would disclose itself to be, is difficult to ascertain, because it does not seem itself to belong to the object world of which alone introspection can take cognisance. If it be only through an act of attention that some feature of that object world

can be brought into consciousness, it is difficult to see how the act of attention itself, as distinguished from what it has brought about, can be observed. We are here again face to face with that unending regression towards the subject as such, of which so much has been already said. But if we cannot in introspection present to ourselves intelligence and volition, if, as psychologists, we can but infer *that* they are, without being able to say from introspection *what* they are, we can at least bring into the light the phenomena in which their action is most apparent. When I distinguish the object from the subject for which it is object, I find that, as a fact, I have set up another object which I call myself. This turns out, as we have seen, to be a fleeting and indefinite presentation whenever we try to submit its nature and limit to scientific scrutiny. The question, what it embraces and what it excludes, proves incapable of a precise answer. But from the point of view of the plain man, the rough distinction is clear enough. My self, so taken, is in the closest way identified with my body; not with my body looked at as merely living, but with my body viewed as also a sentient, intelligent, responsible, and free being. For the plain man there is no such entity as a soul separate from this body. That notion comes only to the mind that has passed into the wilderness of theory. But no more does he think of himself as having a body without a soul. The soul is, for him, the body in its highest

aspects, and the body is the soul in those aspects that are lower. When he speaks of feeling, he speaks of a feeling in his finger or his heel or his head. One thing that distinguishes the portion of the objective world which he claims as his body from the rest is, that it feels, while the rest does not. It is a sort of projection of the subject into experience. Other things are felt, the body feels. In so far as it does so the body is a self, interpreted as such through categories which are those of the subject. It is the manifestation of will, as well as feeling. Its movement is self-determined. It thinks as well as wills. If I am standing on a mountain top, the circle of my surroundings is a limited one, but I am the centre. It is here that I stand localised and perceiving, and the I that perceives, so far as I can present it as object to myself, has a local situation. I can even place the organ or physical manifestation of my thinking in my brain. If I turn to Physiology, I find an unmistakable relationship between the activity of the mind and that of the brain. The fluctuations of the blood-supply to the cortex correspond to the increase or diminution of mental activity. The higher the stage of the animal in evolution, the more does its power of adapting itself to its environment, and of displaying intelligent action, accord with the development of its cerebral hemispheres, and appear to be distinct from the functions of the lower centres and of the spinal cord. If one may for the moment speak in

language which mixes up two points of view, it may be said that in these higher animals the lower centres appear to act from present *stimuli* alone, while the hemispheres act from what physically represents conscious processes of reflection, and what is only set in operation by external stimulation. The disease called *motor aphasia* results from injury to a part of the left frontal lobe of the brain. The patient's voice is all right; he can utter. But he cannot arrange his words. It seems that in most people the left hemisphere of the brain is the seat of control, not only of the power of orderly speech, but also of that of orderly writing. If the part of the hemisphere which controls these powers is out of order, not only the power of consecutive utterance, but capacity to write and spell, is affected. The faculty of vision in man appears similarly to be dependent on the health of his occipital lobes. *Alexia*, or inability to read, and general want of capacity to understand, results from injuries to other portions of the hemispheres in which these functions have been localised by recent psycho-physiological research. Lesion of the temporal lobe may affect or even destroy the faculty of hearing; such lesions have been known, so great is the indication of localisation of brain function, to leave the patient able to read, write, talk, but not to understand what is said to him. It was observed, in some recent investigations, that if the lesion was in the left lobe, the side which with most people—with all, indeed, who are right-

handed—is the most important in direction and control, the mere hearing sense did not disappear, for that was provided for by the centres on the other side. But the power of translating the sounds heard into conceptions, and the conceptions into words, had disappeared, a result which points to the conclusion that the nerve stimulations which are the conditions of the sensations of hearing, do not innervate our motor centres directly, but only do so after arousing what corresponds to the mental equivalent of the words.

Not only do we seem to localise the physical concomitants of our mental functions, but it seems impossible, in the region of the object self, to separate the two excepting in thought. The body may, by abstraction, be regarded as a machine. But in another and equally real aspect it is living. So when we turn to the mind we may, but again only as the result of abstraction from all but certain features, regard the individual as a living organism, and his brain as exercising the functions of life in an immensely high degree. But it is none the less true that, in the experience of the plain man, the individual whom he sees and hears has a higher aspect than that of mere life. That individual is conscious and knows and wills, presents, in fact, the attributes of the subject of knowledge, so far as these can be made object to the subject itself. It is through categories which are as far above and beyond those of life as the categories of life are above and beyond those of

mechanism, that these higher aspects which go to make up the individual are alone possible. Thus the true view of the relation of soul and body would seem to be, not one in which they appear as two things, but another in which they disclose themselves as two aspects. So far from pointing to the conclusions of materialism and mechanical or causal determination, such a result points to just the reverse. It is only because we will assume that the mechanical aspect is the only real one that we think of living beings as really automata. Whenever we are rid of this superstition, a vista that is entirely new opens up.

Psychology is the science of the mind as directly presented object in knowledge, and its methods are partly introspective and partly physiological. Just as mathematics and physics and chemistry can be made of immense use in the study of that region of life to which their conceptions are none the less wholly inadequate, so physiology is brought to the aid of psychology. By abstraction, we represent to ourselves the phenomena of mental life as broken up into separate elements, which elements are emptied by still further abstraction, until we have reduced them in our presentation to the abstractions which we call mere feelings. These feelings we find to have, as their concomitants, physiological processes, and these physiological processes, again by abstraction, we make available for the chronometer, the measuring rod and the balance. In

this fashion we indirectly bring mental phenomena into relations of quantity. But just as this reduction of the mental to the physical is but an artificial construction of reflection, so the view of mind as an object from which we start is itself abstract and unreal. We never, as psychologists, get before our mental vision the mind or subject as such; what we do get is the endless process of regression towards it. We are constantly, as it were, baling out contents which have turned out to be indifferent to the self, and not really to belong to it, but we never get completely rid of them. The limitation of human faculty steps in, and tells us that so far and no further shall we see, and that beyond we can only proceed symbolically, or by means of indirect metaphysical methods, the results of which are shadowy and bloodless. What we have done, when we have made the mind our object, is to abstract from the supreme relationship of reality as object for the subject. We break up and isolate the parts of a phenomenon which from the standpoint of common sense is neither broken up nor consists of parts. For the ordinary man his personality is one and indivisible. He does not separate soul and body. The body, which is the man himself, feels, and no one but he himself can be directly conscious of this feeling. This fact separates off what he calls his body from the rest of the external world. Yet, just because he does not separate soul and body, he regards other people

as having bodies that feel, notwithstanding that he cannot himself experience their feelings. His standpoint, when examined scientifically, turns out to be complex and merely provisional, incapable indeed of accurate statement, and the product of conventions adopted for purposes that are of the most limited validity. But such as it is it lands him in no doubts or difficulties. These arise only from the abstractions of Science, not from those of a common sense which is willing to admit every aspect of the world as it seems. Now Psychology like other sciences is forced, in order, through selective attention, to get clear knowledge, to make violent exclusions of the aspects of reality which for its own purposes it does not happen to require. It begins by shutting out in the first instance the reference of mind to body, though it may afterwards talk as though a great thing had been accomplished in the rediscovery of this relationship. It pictures the contents of consciousness, all that is loosely spoken of as known through internal sense, as consisting of streams of isolated impressions and ideas. It attributes to the mind in dealing with these impressions and ideas separate faculties, such as memory, association, perception, conception, judgment, volition. All these are but the outcome of an artificial and abstract procedure, justified only by the clear though limited knowledge which is obtained through it. Of the contents so abstracted and arranged, some are more com-

pletely than others pushed out, as it were, into the field of the object world. A mere sensation, for instance, does not exist. The qualifying work of memory, comparison, judgment in general, is always present. But it suits the purpose of gaining clear though artificial knowledge, say of the proportion which the increase of the external stimulus bears to the increase of the so-called internal sensation, to treat the sensation as if it were merely passively received, and could be held out at arm's-length and inspected. When we pass to such so-called faculties as memory, or conception, or judgment, the relationship of object and subject becomes more difficult to ignore. We cannot present the subject, but we can go a long way in presenting the object of knowledge as actual only in the act of knowing, that is, as mere object for the subject. The process of such construction we call thought, but as the limitations of our plane of intelligence preclude our presenting it to ourselves in its entirety, we, by abstraction, cut off thought from its aspect as activity of the subject, and represent and speak of it as the thought of an abstract and vaguely conceived psychological object-self. In this way we get to the standpoint of what it has been usual to call formal logic, the logic of the old-fashioned text-books. It is really the science of thought, transformed by abstraction into an object of introspection, and represented as a faculty of a particular thinker. None the less on this

account does such logic form a transition to what lies beyond mere Psychology.

When we scrutinise our procedure as finite minds confronted by an object which we cannot wholly take in or exhaust, we find that we proceed by concentrating attention on aspects which we select. Such selection is an act of will, and the motive which impels it is the particular purpose we happen to have in view. The man in the street concentrates attention on certain aspects; the mathematician, the moralist, and the artist on others. In this way, the characteristics of the world as it seems, are determined for us by the ends which we will. The fundamental form of the activity of selective attention is judgment. As we saw in the first Book, a judgment is a true one when it harmonises with experience generally. It is only by a process of abstraction which removes us further from, and not nearer to, reality, that we split up the judgment into the subject, the copula, and the predicate. For the judgment is the elemental and characteristic form of the activity of the subject, and though it be true that where intelligence is only being considered as at a plane at which the subject is confronted by the object as something foreign to it, the judgment as the activity of the subject apparently does no more than unravel what is presented, this is a view which, as we have already seen, is not only not final, but, on scrutiny, discloses itself as vanishing to an extent which is indefinite. As soon as we

have penetrated the hard crust of everyday conventions and metaphors with which language has overlaid reality, this becomes apparent. There is only a single experience, that which is ours. Other human beings have neither the same experience, nor a different experience. For a plurality of experiences is, as we have already found out, a totally unintelligible and self-contradictory notion. The other human beings are, as other human beings, but parts of that experience, and the observer himself, so far as he observes himself, is likewise but part of it. If we pass to a higher point of view there is but one subject in knowledge, and this manifests itself in a plurality of individual minds, not like light through a number of glasses, but rather as a plurality of images which the light creates. Yet this simile is no more than a simile. It is just because such similes and metaphors are all drawn from a region of direct presentation of concrete objects in the externality of space and time that they are inadequate, and useless, and misleading, and have been the occasion in Philosophy of difficulties far greater than those they were called in to explain.

When we form a judgment we start from something which is an actual object to our minds, and is in this sense real. "Croquet is a tedious game." Here, although there is no such thing in reality as a game of croquet in the abstract, I am referring to what is a fact of the real world, my generalised experience of the game. Reality is

the logical subject of my judgment. But this presentation of reality is indefinite, so far as my impressions about the quality of croquet as an amusement go. I proceed to connect it with a multitude of impressions of long hours and damp grass, and I frame a general conception, the predicate, and by means of this render definite and apparent what was before indefinite. If my judgment is a right one, I have so far unravelled experience and extended its connotation. The present conception is amplified, and receives content. Now if, as we have seen it must be, experience is a continuous system confronting the individual mind, and knowledge is the making parts or phases of this system definite by selective attention, we can understand the true nature of the process of reasoning. When we reason inductively, we are in search of the general principles on which the system of experience is there for us. We frame imaginative hypotheses, and apply conception after conception until we find one that, after testing, emerges as in harmony with the rest of experience. We thus infer a general principle, having started with particulars. This is induction. Or having got the system before our minds, we wish to find out whether a particular case belongs to it. "Games that involve standing about in the rain are tedious"; here we have a principle that binds certain experiences into a system. "Croquet involves standing about in the rain"; here we have the minor premiss, with a middle term asserting a harmony

between a general feature of croquet and the special system of tedious experiences with which we want to know whether it is connected. "Croquet is tedious"; here we have the conclusion of the syllogism, making explicit a feature of croquet which was not explicit before, because the game had not been assigned a place in my system of tedious experiences. It will be observed how abstract, subjective and selective, both these processes of reasoning are. Abstract they are, because they fasten on a single feature arbitrarily. The keen croquet player does not attach any importance to the dampness of the atmosphere. His impression of this is disregarded as wholly inferior in interest to the pleasure derived from the game. But set the same man to walk up and down the grass reading a book, and he will complain bitterly, and, without waiting, draw the inference that reading on damp grass belongs to the system of the tedious. Thus the subjective element comes in. Now this is the result of selection, probably in this case of habitual selection. He has concentrated attention in the second case on a feature which he did not select for attention in the first. Thus it is that thinking passes into willing, and willing into thinking, and we find that it is only artificially and by abstraction that they are represented as different kinds of mental acts. The world is will just as much as it is idea, and idea just as much as it is will. Assent, and its subjective aspect belief, is the

manifestation of this will. It is only the persistent attempt of some psychologists to treat thought and volition as though they were fundamentally distinct, and not merely provisionally separated, that has led to the difficulty which has puzzled people when looking for light on the nature of the act of assent or belief. The will is not free in so far as it is confronted by a world of objects which hem it in, and are foreign to it. But if we could conceive intelligence which in the act of knowledge, of being subject, was aware of itself as one with its object, and of its object as one with it, then we should have likewise conceived a will that was wholly free. The analysis of the nature of reality which we have pursued up to the stage we have reached in our journey seems to have shown that experience discloses an infinite regress towards such a conception as the unseen foundation of all that is. Even in experience we seem to have found that no limit can be set to the penetrating power of thought or to its work in the construction of reality, and now the same appears to be true of will, which by its selection seems to sustain, alter, and, to an extent which is for us limitless, create the experience amid which we live. What has obscured this truth is only the hypostatised abstraction from the action of the subject which both the man of science and the plain man are forced to make, in order to save time and energy. Even at the standpoint we have been considering, it seems as though the final explanation of reality were to

be sought in a system of Ends rather than of Causes.

I will now ask you to look back over the road that has been travelled through the region of the special sciences. Not external compulsion, but the end, the purpose, of the observer, determines the method of his investigation. The essence of the method is abstraction, under a particular set of categories. The point of departure is always the world as it seems, the world of concrete fact, which is thus stripped of its wealth and diversity. In a sense, too, the subject-matter is, throughout, concrete fact. But it is fact under selected aspects only. When I set myself to solve the problem of whether the square of the hypothenuse of a right-angled triangle is equal to the squares of the other two sides, I start with what I treat as an actual thing, the idealised pictorial construction of a right-angled triangle, which I look on as a fact, notwithstanding that such a fact is never to be found in an exact form in nature. I can reason from its properties, because I have got the clearest and most exact notion of them. In the course of my reasoning, I pictorially construct again, and in the end, I construct the result. Thought is in this fashion made adequate to reality. It constructs its object. It is free in so doing, to go right or to go wrong; but if, in such a case, the free self-determining activity of thought is to go right, it must follow the principles which make up the system of intelligence in the region in which it is

operating. By so doing, and only by so doing, is it possible to construct, as the outcome of the reasoning process, an ideal fact, individual, in the sense that with it the subject is satisfied, satisfied on the theoretical side as intelligence, because it finds the ideal individual fit into the context of experience, satisfied on the practical side, as will, because the self is content to rest in the final outcome, and has no desire to seek anything beyond. In other words, what has been attained complies with the test of what is individual, and so is unique. In geometry, in short, we experiment on, and mould, the fact with which we start, just as we do in chemistry. The perfect square is as much, and as little, a fact as the molecule made up of two atoms of hydrogen, and one of oxygen. In both cases, we make experiments which we could not make, without materials purified and rendered definite by abstraction. When we have thus idealised a fact of experience, we go on to reason to a result which, if true, must disclose itself as another idealised fact.

That this should be possible, suggests again the conclusion already reached by other ways, that it is in the reflective activity of thought that the nature of things as known, lies. Truth and error, the difference between the reality and the chimera, have been already discussed in the second and third Lectures, and there is no need of repetition of what was there found, in order to prove that the proposition, *Esse* is *Intelligi*, in no way conflicts

with the common-sense view of the plain man. Much of the hesitation in accepting such a result, frankly, and without reserve, arises from a view of the relation of thought to its object, which I have been trying to get rid of in these pages. Even Kant could not help speaking as though the mind were a thing which built up the object out of sensations. Now, so long as we talk of building up, or even of construction, without making plain what we really mean, we shall be apt to give a false impression. These are metaphors drawn from the picture galleries of time and space. It is, however, for the world in time and space, and for time and space themselves, that we have to account, and we shall only fail if our metaphors seem to beg the very point on which we employ them to throw light. In truth, thought no more exists apart from its object, than does the object exist apart from thought. It is in self-conscious mind that the two are distinguished, and, except as aspects within self-conscious mind, they seem to have no meaning or reality. It is within this field that the whole universe is comprised, lives, moves, and has its being. Within it, we must look for truth and error as well as everything besides. It is the whole field of reality, because it is the whole field of mind. And mind creates reality only in the sense that reality has no meaning, save as a distinction within mind, while, on the other hand, mind cannot become a distinct object for self, save in contrast to an object, conceived as real and self-

subsisting. That the distinction of the one from the other exists only in thought, is plain. The one is just the other, under a different aspect. I see that chair! What makes its reality, its actuality, for me? Differences, the distinctions through the medium of which what is first formless comes into consciousness as an object, the categories, if you please, which I have applied. And yet I cannot exhibit the chair as a deduction, in the fashion in which I exhibited the special content of the square of the hypothenuse of the right-angled triangle as a deduction. In both cases we are dealing with hard facts, hard in the sense that they are independent of the imaginings of my mind looked at under the aspect of a finite individual. But in the geometrical case, I, though finite, though confronted by a reality which was beyond my control and independent of me, was able, by abstraction, to take one of its relationships or aspects, and mould, control, and experiment with it within much wider limits than my position as here and now in the concrete world of actuality enabled me to do with the real things of that world. That was how I set immediacy at naught, and could take flight on the wings of inference to the most distant regions of space and time. Now, Philosophy, while recognising this process, does not deal so with the universe that confronts it, for it has to give an account of that universe as a whole containing all its boundless fulness; and the philosopher is

but an individual spectator, reflecting upon what confronts him, and for him, what confronts him not only exists independently of any particular spectator, but includes the very self in certain aspects in which that self appears. Yet, in other aspects, the spectator is the thinker, *the* subject in self-consciousness, and as such his individuality may be subjected to the free investigation of reflection, of thought, and turned in on its own operation. So looked at, his limitations, at first sight impenetrable and baffling, disclose themselves as mere appearances. From the every-day working standpoint from which the onlooker must be taken as a thing of which his thought is a property or activity, these appearances are final reality. But pass from the practical standpoint even for a moment. He sees the branches of a tree waving in the wind. The branches with their leaves are now with their leaves here, but, in a moment, while his eyes have been shutting and opening again, they are in a new position. Just as we found earlier that the individual man could have no direct experience of his neighbour's sensations, and could recognise in their descriptions no more than universal elements, that is to say, elements which exist for thought only, and are not passively received sense impressions, so he has no direct experience of his own individual sensations of the moment before. He cannot even *reproduce* them in memory. All he can do is, like the geometer, to construct an

image embodying those general features of them, which thought alone can apprehend and retain in an act which is not one of passive reception, but an active identification in difference through general conceptions. In this fashion he forms a judgment, he determines the concrete object of perception in the present moment by reference to the conception which he has constructed of the past moment. He determines a certain identity or continuity in the change of form of the tree as the wind moves its branches, and he so enriches and expands its present actuality for himself. But the work done is obviously not accomplished by passive reception. However proper a matter for attention the aspect of passive reception may be at another standpoint, there can be no question of it here, where the inquirer has to get at the truth about the relation between his mind and its content. That content can be described by him to himself and to others only in terms of the universals which mind establishes, and which give meaning, nature, and actuality to that content. The object world of nature has sometimes been called externalised thought. Such a name is good enough if we bear in mind what we mean by the words. We do not mean that in the aspect in which John Smith appears as a reasoning animal, an individual among other individuals, whose reason is the soul of what otherwise would be a soulless body or thing, his thinking faculty can be shown

to put together the universe of which he is part. It is only when in reflection we have transcended John Smith, the observer, as well as what he observes, that we find the two and the difference between them to be distinguished only *within* knowledge. Such a view of reality is far removed from subjective idealism, and even from the modified doctrine of the Critique of Pure Reason. If the distinction between subject and object emerges at a plane of intelligence, which is neither the only plane nor the highest plane, the doctrine for which this is so is more analogous to realism than to the old subjective idealism of Berkeley and Hume. Nature it treats as real just as much as the individual percipient. For a percipient, who is in many aspects part of nature itself, and conditioned by it, the nature from which he has emerged must always be impenetrable and uncontrollable, expanding itself in a contingency which is boundless, and disclosing itself at every turn as inexhaustible by the intelligence of its creature. But the individual is more than an individual. He is a thinker, and in thinking of his own limits he transcends them. These limits become disclosed as falling within thought itself. He who in one aspect is a creature, is on another side more than a creature. He is also the manifestation and embodiment of mind, and distinguished therefrom in appearance only. Finite as he appears, he can, by letting intelligence

analyse and pick and choose among the aspects of that whose *esse* is after all readily discovered to be *intelligi*, transcend the limits of his own immediacy, and cause its foreignness to disappear. The use of the limited categories of mathematics and physics can help him to get far in this direction. The use of the higher categories of life and soul bring him still further along the path which leads to the discovery that the reality and actuality of nature are simply intelligence. The final result, achieved only when the whole series of the categories is made use of, and their full application realised, is the disclosure that the truth and very substance of nature is to be sought in mind, which thus rediscovers itself in its own object.

It has been truly said that such a doctrine can only be convincingly presented if it is possible to exhibit it as a complete system, a system in which the three aspects of ultimate reality would appear somewhat as follows :—First, mind under the abstract aspect of its categories in their relation to each other; second, mind in the abstract aspect in which, as object in nature with attention abstracted from the work done by intelligence operating through universals even in bare perception, intelligence has appeared as externality ; and, third, mind as the concrete and final activity in which not only do the categories and nature appear as but abstractions, so far as independent, but intelligence and volition disclose themselves as

one. In such a presentation, nature would figure as characterised by the feature of atomism, in other words self-subsistence, and mutual exclusion of its components. For it would be distinguished from its counter abstraction, intelligence taken *per se*, only by appearing as not-thought, the background against which intelligence is distinguished and made conscious of itself as in appearance other than nature. This distinction falls within the self-consciousness, in which each side of it is but a moment, nevertheless the distinction is essential to self-consciousness, although thus produced within it. A complete system of Philosophy would set intelligence the task of tracing its own movement in the detail of the various forms implied and contained within the concrete and final reality of self-consciousness. Self-consciousness would at the end stand disclosed to itself as Reason, aware of itself as such, and with a complete view of the entire logical chain of its own categories and their distinctions, and of the dialectic through which these distinctions were related. Now it is no part of the purpose of these Lectures to attempt the display of the movement of Reason in such a system. My observations form but an introduction to Philosophy, to the thinking about these things of the great minds in the history of speculative thought. Their purpose is merely to try to help towards an understanding of what the function of speculative thought has been, and of the work which it has accomplished.

He who wishes to go beyond the limits of these discourses, and, having travelled the pathway which leads to reality, to approach yet more closely to the problem of its nature, will find guidance waiting for him in both Ancient and Modern Philosophy. Plato and Aristotle between them have given to the world attempts at a systematic display of the work of Reason. In modern times Hegel has done the work still more thoroughly. How far he has succeeded is still matter of controversy. But just as no one can properly count himself a mathematician who has not mastered the calculus, so no one is properly equipped as a philosopher who has not subjected himself to the hard work necessary for the understanding of the Hegelian system as a whole. Hegel is very hard to read. For that matter, so are the books on the higher mathematics. Yet people do not turn aside from the books on higher mathematics on that account, or pronounce their contents nonsense. They know that the reason of their difficulty is that their own imagination is not yet familiarised with a wholly novel set of conceptions about quantity, or freed from the superstitions which are adequate for everyday life. The incrustations of common sense are hard to break through, but in every science we have to break through them, and we cheerfully set about the task. Why in the case of Philosophy should it be different! There is not likely to be any royal road here any more than in Science. The incrustations which have to be

removed by patient study and reflection are not less but greater. Conceptions of the nature of ultimate reality, which are the outcome of the labour of successive generations of men working through two thousand years, are not likely to prove easy to grasp without preparation. When we are told by the most distinguished thinkers in this country, on the Continent, and in the United States, that they get more from Hegel than from any one else, and when we see how profoundly his teaching has modified studies such as those of history and of logic, to mention no others, it seems as though the main preparation for the would-be philosopher must still be to find out what Hegel really meant, and to learn to read him. The best assurance that I can give you of my own conviction on the subject is to tell you that all that is in these Lectures I have either taken or adapted from Hegel, and that in Hegel there is twice as much again of equal importance which these Lectures cannot even touch. We may not to-day be satisfied with all the details of the dialectic of the notion as set out in the *Encyclopædia*. Perhaps no single intellect, not even the gigantic intellect of a Hegel, could be equal to the task of displaying in its totality the inmost movement of Reason. We may think that the meagre and inadequate knowledge which Hegel possessed of Science, as Science has since his time become, has made his attempt to trace the presence of the reflection of universals of thought in nature, their correlation and counter-

part, in large measure a failure. We may be dissatisfied with some points of the system, and feel that the development of nearly a century since the *Encyclopædia* was written necessitates its being rewritten and the doing of much of the work anew. We may be grateful for the work which remarkable men of our own time, men such as Mr Bradley and Professor Royce, have done in recasting many of the Hegelian results. But none the less are we bound to realise that in labouring through the text of the *Encyclopædia*, with its unfamiliar terminology, as unfamiliar and as uncouth as the terminology of the calculus, we are in face of the greatest master of speculative method that the world has seen since the days of Aristotle. It often happens that Hegel will not pause to give the struggling reader kindly help in places where he needs it badly. He is no enthusiast like Fichte. He holds close to the concrete. He damps and disappoints the student by successive and deliberate refusals to fire his imagination. Himself a master of rhetoric, he seems to despise it even where it would serve to give relief by lightening for a moment the pressure of the iron chain of his logic. He is at times, to all appearance, deliberately obscure. He will not stop to explain that questions with the answer to which he likes to play, are questions to which he has no answer to give, for the simple reason that they are, from his point of view, irrational. He prefers in such

cases to amuse himself by assuming the part of a humorist. Herr Krug thinks that Hegel ought, if his philosophy were true, to be able to deduce his, Herr Krug's, pen. Hegel only hints a doubt whether the pen be worth deducing. So with the question as to the difference between the idea and the reality of a hundred dollars; the difference does not matter. Yet it is not the language which Hegel uses that is the real difficulty. It is the mode of thinking. If we have once grasped his fashion of thought, the language presents but little difficulty. We come to see that it is in the nature of things that it should be special, special as is and must be the language of the mathematical calculus. The Hegelian Philosophy will always be difficult. Its truths do not lie on the surface of the pictorial aspect of things, but beneath it. You have to break up that surface in order to get at what this great mine of Philosophy holds buried beneath a terminology necessarily novel, but not necessarily as difficult as its creator has chosen to make it. None the less no one else has so much to tell to the searcher after truth who will make the effort to grasp what he has to say. No other is so helpful.

Far away, across the German Ocean, there is a quiet spot shut off from the busy traffic of the streets of Berlin. You go along the Invaliden Strasse, and turn through a gateway which leads into the now deserted cemetery

of the old Dorotheen Kirche. There, under a simple stone, lie the mortal remains of the greatest master of abstract thought that the world has seen since the day when Aristotle died.

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